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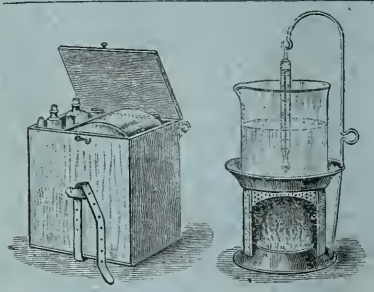

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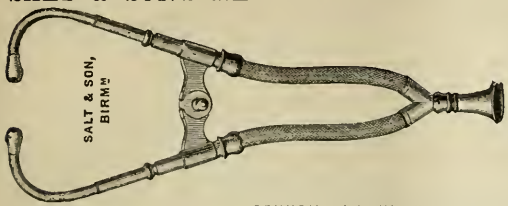

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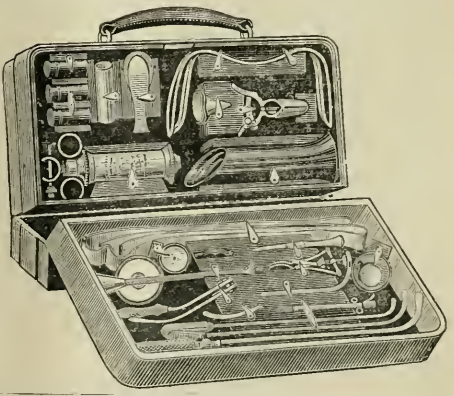

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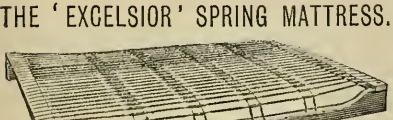
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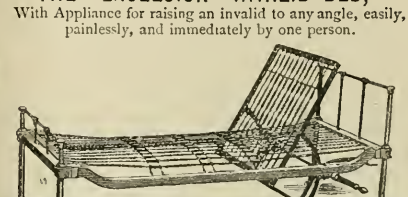

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British Journal of Dental Science, August 1870.—'The Second Edition bears upon its pages the most satisfactory evidence of the industry and zeal with which he has followed up the study and practice of the speciality he has devoted himself to with so much success..... Altogether we must heartily congratulate Mr. Coles on this creditable completion of a work which cannot but redound to his credit wherever it is known.'

A Manual of Dental Mechanics.

With 150 Illustrations. CHURCHILL.

American Dental Register, Nov. 1874.—'The work we regard as a very valuable one for the student, and, indeed, for the practitioner. It should be in every Dentist's library.'

Notes for Dental Students. *2s. 6d.*

BUTCHER, 4 Crane Court, Fleet Street.

OPINIONS OF THE PRESS.

British Journal of Dental Science August 1876.—'We cordially welcome this useful little book.....Of great value to those preparing for the Dental Diploma.....We hope there will soon be a second edition needed.'

The Doctor, September 1876.—'Carefully arranged and very complete. Indeed, they seem to try to take in rather more than sufficient for Dental Students.....We have no other fault to find with this notebook, which appears a model of what such a work should be.'

The Mouth and Teeth during Pregnancy.

Reprinted, by permission, from the Transactions of the Odontological Society. Pp. 31. Price *1s. 6d.* London: WYMAN & SONS, Great Queen Street.

OPINIONS OF THE PRESS.

The British Medical Journal.—'The author has evidently paid considerable attention to the subject, and gives many useful hints as to the management and relief of the distressing toothache and neuralgia complicating pregnancy.....The remarks on treatment are practical, and will repay perusal.....The Practitioner will do well to carry out the suggestions offered by the author.'

THE CASELLA-GOOLDEN DOUBLY ADJUSTABLE ELECTRICAL SIXE'S THERMOMETER.

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This instrument is particularly adapted for Greenhouses, Hospital Wards and Sick Rooms; Breweries, Refrigerating Apparatus and Vessels conveying meat from the Colonies; the Ventilation of Theatres and Public Buildings, and all cases where it is essential to preserve uniform temperature, such as Chemical and Dyeing processes, &c.

L. CASELLA, 147 Holborn, London E.C.

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SCHOOL OF

ANATOMY, PHYSIOLOGY, AND SURGERY,

Licensed under Anatomy Act. Demonstrations by Mr. THOMAS COOKE, F.R.C.S., Senior Assistant-Surgeon to the Westminster Hospital. All the subjects are gone through every three months, on the dissected body, with microscopical preparations, surgical apparatus, splints, &c. The operations of Surgery are all performed on the dead body by the students. Dissecting Room open daily. Fees from 2 to 5 Guineas, inclusive of Tablets of Anatomy for each class. Prospectus on application to private address, 16 Woburn Place, W.C.

MR. COOKE'S TABLETS OF ANATOMY AND PHYSIOLOGY (Longmans), contain 'in the fewest words and plainest language, and in about one-tenth the space, the matter which is found in the most accredited standard works. The author is evidently a sound teacher.' *Lancet.* 'Probably no anatomical or physiological work is more universally appreciated.'—*Students Journal.*

OPERATIONS ON DEAD BODY. *Vide* above.

ST. MARY'S HOSPITAL MEDICAL SCHOOL,

PADDINGTON, W.

THE WINTER SESSION will Open on MONDAY, OCTOBER 1st, with an Introductory Address by Dr. HANDFIELD JONES, F.R.S., Senior Physician to the Hospital. The Chair at the Annual Dinner in the evening, at Limmer's Hotel, George Street, Hanover Square, will be taken by SPENCER SMITH, Esq., F.R.C.S., Consulting Surgeon to the Hospital.

Four Open Scholarships in Natural Science, each of the value of £50, will be offered for competition on October 2nd and following days.

The School Buildings, to which large additions have been made, especially as regards the laboratories for the teaching of Physiology and Chemistry, will be ready for occupation on October 1st; and it is intended to open on the same day a 'Student's Club and Refreshment Room,' for the convenience of the pupils of the Hospital, in the building itself.

In addition to the Open Entrance Scholarships, Class Prizes, and usual Appointments, Scholarships will be offered for competition at the end of each year, open to all pupils of the Hospital. These Scholarships are of the value of £20, £25, and £30, for the first, second, and third years respectively.

Further information may be obtained of the Dean, or of the Medical Superintendent at the Hospital.

GEORGE P. FIELD,

20th August, 1883. Dean of the School.

PULLNA BITTERWATER (Bohemia's Treasure).

The oldest and most valuable spring. The most salutary Aperient (never debilitating). Anton ULBRICH.

UNIVERSITY OF EDINBURGH.—FACULTY OF MEDICINE, SESSION 1883-84.

The CLASSES for the different branches of study will be opened as follows, and will meet daily thereafter (Saturdays excepted), unless otherwise specified.

Practice of Physic—Tuesday, Oct. 23. 9 A.M. Professor Grainger Stewart, M.D.

Chemistry—Tuesday, Oct. 23. 10 A.M. Professor Crum Brown, M.D.

Surgery—Tuesday, Oct. 23. 10 A.M. Professor Chiene, M.D.

Institutes of Medicine or Physiology—Tuesday, Oct. 23. 11 A.M. Professor Rutherford, M.D.

Practical Physiology—Tuesday, Oct. 23. 9 A.M. Professor Rutherford, M.D.

Midwifery and Diseases of Women and Children—Tuesday, Oct. 23. 11 A.M. Professor Simpson, M.D.

Clinical Surgery—Monday, Oct. 29. 12 A.M. Professor Annandale, M.D.

Clinical Medicine—Tuesday, Oct. 23. 12 to 2. Professors Maclagan, Grainger Stewart, T. R. Fraser, and Greenfield; and Professor Simpson, on Diseases of Women.

Anatomy—Tuesday, Oct. 23. 1 P.M. Professor Turner. M.B.

Materia Medica—Tuesday, Oct. 23. 2 P.M. Professor Thomas R. Fraser, M.D.

Practical Materia Medica (including Pharmacy)—Wednesday, Oct. 24. 10 A.M. Professor Thomas R. Fraser, M.D.

Practical Chemistry—Thursday, Jan. 3. 2 P.M. Professor Crum Brown.

General Pathology—Tuesday, Oct. 23. 3 P.M. Professor Greenfield, M.D.

Practical Pathology—Tuesday, Oct. 23. Daily. Professor Greenfield, M.D.

Practical Anatomy—Monday, Oct 1. Daily. Professor Turner.

Anatomical Demonstrations—Tuesday, Oct. 23. 4 P.M. Professor Turner.

Botany (given in Summer Session)—Professor Dickson. M.D.

Medical Jurisprudence (given in Summer Session)—Professor Maclagan, M.D.

Natural History—Tuesday, Oct. 23. 2 P.M. Professor Ewart, M.D.

Practical Natural History—Wednesday, Oct. 24. Professor Ewart, M.D.

ROYAL INFIRMARY, at Noon, Daily.

The following means are afforded for Practical Instruction :—

WINTER AND SUMMER.

Practical Anatomy, under the Superintendence of Professor Turner.

Anatomical Demonstrations, by Professor Turner and the Principal Demonstrator.

Anatomical Museum, under the Superintendence of Professor Turner.

Practical Chemistry, under the Superintendence of Professor Crum Brown.

Practical Physiology, under the Superintendence of Professor Rutherford.

Practical Materia Medica, including Pharmacy, under the Superintendence of Professor Thomas R. Fraser.

Morbid Anatomy and Practical Pathology, under the Superintendence of Professor Greenfield.

Tutorial Class of Clinical Medicine, under the Superintendence of the Clinical Professors.

Tutorial Class of Clinical Surgery, under the Superintendence of Professor Annandale.

Obstetrical and Gynecological Operations, under the Superintendence of Professor Simpson.

Chemical Laboratory, under the Superintendence of Professor Crum Brown.

Medical Jurisprudence Laboratory, under the Superintendence of Professor Maclagan.

Physiological Laboratory and Museum, under the Superintendence of Professor Rutherford.

Pathological Laboratory, under the Superintendence of Professor Greenfield.

Natural History Laboratory, under the Superintendence of Professor Ewart.

Royal Botanic Garden, Herbarium, Museum, and Laboratory, under the Superintendence of Professor Dickson.

Materia Medica Museum and Laboratory, under the Superintendence of Professor Thomas R. Fraser.

WINTER.

Bandaging and Surgical Appliances, under the Superintendence of Professor Chiene.

SUMMER.

Practical Botany and Vegetable Histology, by Professor Dickson.

Practical Natural History, by Professor Ewart.

Operative Surgery and Surgical Appliances, by Professor Chiene.

During the Summer Session, Lectures will be given on the following Subjects :—

Botany and Vegetable Histology, by Professor Dickson.

Medical Jurisprudence, by Professor Maclagan.

Clinical Medicine, by Professors Maclagan, Grainger Stewart, T. R. Fraser, and Greenfield; and by Professor Simpson, on Diseases of Women.

Clinical Surgery, by Professor Annandale.

Chemistry (Advanced Class), by Professor Crum Brown.

Natural History, by Professor Ewart.

UNIVERSITY OF EDINBURGH—Continued.

Medical Psychology and Mental Diseases, with Practical Instruction at the Royal Edinburgh Asylum, by the Physician Superintendent, Thomas S. Clouston, M.D.

Diseases of the Eye, by D. Argyll Robertson, M.D.

MATRICULATION.—Every student, before entering with any Professor, must produce a Matriculation Ticket for the current Session. Tickets will be issued at the Matriculation Office at the University, every lawful day, on and after Oct. 1, from Ten till Four o'clock, except on Saturdays, when the office will be shut at One. Enrolment in the General Album is the only legal record of attendance in the University.

Information relative to Matriculation and the Curricula of Study for Degrees, Examinations, &c., &c., may be obtained on application at the Secretary's Office, and full details are given in the University Calendar, published by James Thin, 55 South Bridge.

By Authority of the Senatus.

August 1883. JOHN WILSON, Sec. Sen. Acad.

VICTORIA UNIVERSITY, OWENS COLLEGE, MANCHESTER.

MEDICAL DEPARTMENT. SESSION, 1883-4.

Dean—ARTHUR GAMGEE, M.D., F.R.S.

[The NEW BUILDINGS in extension of the Medical Department will be opened at the beginning of the Session, 1st October.]

WINTER SESSION.

Physiology and Histology—Brackenbury Professor, A. Gamgee, M.D., F.R.S.

Assistant Lecturer—W. Horscraft Waters, M.A.

Anatomy, Descriptive and Practical—Professor M. Watson, M.D., F.R.S.E.

Demonstrators in Anatomy—Alexander Fraser and Joseph Collier.

Comparative Anatomy—Beyer Professor, A. Milnes Marshall, M.D., D.Sc., M.A.

Chemistry—Professor Henry E. Roscoe, Ph.D., LL.D., F.R.S.

Organic Chemistry—Professor Carl Schorlemmer, F.R.S.

Medicine—Professors William Roberts, M.D., F.R.S., F.R.C.P., and John Edward Morgan, M.D., M.A., F.R.C.P.

Surgery—Professor Edward Lund, F.R.C.S.; Assistant Lecturer, F. A. Southam, M.B., F.R.C.S.

Practical Surgery—Thomas Jones, M.B., F.R.C.S.

Pathology and Morbid Anatomy—Professor J. Dreschfeld, M.D., F.R.C.P.

Surgical Pathology—Alfred H. Young, M.B., F.R.C.S.

Hospital Instruction—Physicians and Surgeons of the Manchester Royal Infirmary.

SUMMER SESSION.

Practical Physiology and Histology—Brackenbury Professor, A. Gamgee, M.D., F.R.S.

Assistant Lecturer—W. Horscraft Waters, M.A.

Practical Anatomy—Professor M. Watson, M.D., F.R.S.E.

Demonstrators in Anatomy—Alexander Fraser and Joseph Collier.

Midwifery and Diseases of Women—Professor J. Thorburn, M.D., M.R.C.P.

Diseases of Children—Henry Ashby, M.D., M.R.C.P.

Materia Medica and Therapeutics, Practical Pharmacy—Professor D. J. Leech, M.D., F.R.C.P.; Assistant Lecturer, Wm. Elborne.

Medical Jurisprudence—C. J. Cullingworth, M.D., M.R.C.P.

Hygiene—Arthur Ransome, M.D., M.A.

Practical Morbid Histology—Professor J. Dreschfeld, M.D., F.R.C.P.

Mental Diseases—George William Mould, M.R.C.S.

Ophthalmology—David Little, M.D.

Operative Surgery—Thomas Jones, M.B., F.R.C.S.

Practical Chemistry—Professor Henry E. Roscoe, LL.D., F.R.S.

Comparative Embryology—Beyer Professor, A. Milnes Marshall, M.D., D.Sc., M.A.

Comparative Osteology—Mr. C. Herbert Hurst.

Botany—Professor W. C. Williamson, LL.D., F.R.S.

In addition to other Exhibitions and Prizes, the following are offered annually :—

Dauntesey Entrance Medical Scholarship of the value of £100.

Robert Platt Physiological Scholarship, £50 per annum, tenable for two years.

Prospectuses will be forwarded on application.

J. HOLME NICHOLSON, M.A., Registrar.

THE QUEEN'S COLLEGE, BIRMINGHAM.

FACULTY OF MEDICINE.

The WINTER SESSION will COMMENCE on MONDAY, the 1st of OCTOBER next. OPENING ADDRESS, at half-past Three o'clock, by BENNETT MAY, Esq., F.R.C.S. FEES:—The Composition Fee for all the Lectures required by the Examining Boards is Sixty Guineas, payable by two equal instalments. HOSPITAL PRACTICE:—Students can now enter to the practice of both General and Queen's Hospitals for a Single Fee.—Applications for prospectus of Medical Department to be made to the Warden, at the College; or to Alfred H. Carter, M.D., Newhall Street, Hon. Sec.; or the undersigned.

JOSEPH LEWIS, Secretary.

21 Paradise Street.

DR. STEEVENS'S HOSPITAL, DUBLIN.

Consulting Physicians—H. Freke, M.D. Dub. Univ., Fellow K. and Q.C.P., M.R.I.A.; T. W. Grimshaw, M.D. Dub. Univ., Fellow K. and Q.C.P., Registrar-General for Ireland.
Consulting Surgeons—S. G. Wilmot, Fellow and Ex-President of the Royal College of Surgeons, Sir G. H Porter, Fellow and Ex-President of the Royal College of Surgeons, Surgeon-in-Ordinary to the Queen in Ireland.
Physicians—H. C. Tweedy, M.D. Dub. Univ. Fellow and Examiner R.C.S.I.; R. A. Hayes, M.D. Dub. Univ., F.R.C.S.I., Physician for Diseases of the Throat, National Eye and Ear Infirmary.
Surgeons—W. Colles, Fellow and Ex-President R.C.S.I., Regius Professor of Surgery, T.C.D., Surgeon-in-Ordinary to the Queen in Ireland; E. Hamilton, M.D. Dub. Univ., Ex-President R.C.S.I., Consulting Surgeon Dublin Orthopædic Hospital; R. M'Donnell, M.D., F.R.S., Fellow and Ex-President R.C.S.I., Consulting Surgeon Dublin Orthopædic Hospital.
Resident Surgeon—L. Myles, M.B., B.Ch. Dub. Univ.
Obstetric Physician—A. Duke, Member and L.M., K.Q.C.P.I., Ex-Assistant Physician Rotunda Hospital.

This Hospital affords exceptional advantages for Clinical Instruction. Owing to its position, there is always a large number of casualties under treatment in this Institution, while there are to be found occupying its beds at all times numerous cases of every description of Acute and Chronic Medical and Surgical Diseases. There is a Ward entirely devoted to Syphilitic Disease, and a detached building for Fever cases. There is an extensive Out-patient Department, with separate Clinics for Diseases of the Skin, Throat, Teeth, and those peculiar to Women.

Every opportunity will be afforded to the Students to become thoroughly familiar with the modern appliances used in the diagnosis and treatment of diseases.

The Hospital, which contains 250 beds, is visited daily, at 8.30 A.M., by the Resident Surgeon, and at 9 A.M. by the Physicians and Surgeons. The Surgical Wards are also visited each evening.

Clinical Lectures are given by the Physicians and Surgeons during the Session.

Surgical Operations are performed on Saturdays, at 10 A.M., except in cases of emergency.

There is accommodation in the Hospital for two Medical and six Surgical Resident Clinical Assistants.

The Museum, which is open daily to the Pupils of the Hospital, contains valuable preparations, comprising Human and Comparative Anatomy, Physiology, and Pathology, and a collection of Drugs used in Pharmacy.

There is also a Lending Library, containing modern Medical and Surgical Works.

The Apothecary, Mr. M'Carthy, gives instruction in Practical Pharmacy.

FEES.—Hospital Practice—Nine Months, £12 12s.; Six Months, £8 8s.; Three Months, £5 5s. Dressership: Winter, Six Months, £21; Summer ditto, £15 15s.

The Session commences on the first Monday in October.

A Prospectus and Particulars may be obtained from the Resident Surgeon, at the Hospital, or from

RICHARD A. HAVES, M.D., Hon. Sec.,
32 Merrion Square South, Dublin.

QUEEN'S COLLEGE, BELFAST

FACULTY OF MEDICINE.

ANATOMY AND PHYSIOLOGY—P. Redfern, M.D., F.R.C.S.
CHEMISTRY—E. A. Letts, Ph.D., F.R.S.E., F.C.S.
PRACTICE OF MEDICINE—James Cuming, M.A., M.D., F.K.Q.C.P.
PRACTICE OF SURGERY—Alexander Gordon, M.D.
MATERIA MEDICA—J. S. Reid, M.D.
MIDWIFERY—R. F. Dill, M.D.
MEDICAL JURISPRUDENCE—J. F. Hodges, M.D., F.C.S., F.I.C.
NATURAL PHILOSOPHY—Joseph D. Everett, M.A., D.C.L., F.R.S.
ZOOLOGY AND BOTANY—Robert O. Cunningham, M.D., F.L.S.

The Lectures of the Winter Session of 1883-84 will commence on Tuesday, October 30, and the Lectures on Midwifery, six months' course, on February 1. The Lectures on Botany and Medical Jurisprudence, and the Summer Course of Practical Chemistry, will commence on May 1, 1884.

The Anatomical Rooms are open for the whole day, and students are aided in their Dissections by the Professor of Anatomy, and the Demonstrator.

The Examinations for Medical Scholarships, tenable for one year, and of which two are awarded to students each year of the Medical course, will commence on October 23.

FEES.—Anatomy and Physiology—1st course £3; each subsequent course, £2. Demonstrations and Practical Anatomy—each course, £3. Practical Chemistry, £3. Other Medical Lectures—1st course, £2; each subsequent course, £1.—BELFAST ROYAL HOSPITAL. Clinical Fees, a Winter Session, £5 5s.; a Summer Session, £2 2s.; perpetual Fee, payable in two instalments, £10 10s. Hospital Fee, half a guinea for each Winter or Summer Session.—ULSTER HOSPITAL for DISEASES of WOMEN and CHILDREN, and MIDWIFERY DISPENSARY, 11 Fisherwick Place, Fee for Winter, six months, £3 3s.—LYING-IN-HOSPITAL, Fee for six months, £2 2s.—BELFAST DISTRICT LUNATIC ASYLUM, Fee for Course, £3.

(By order of the President),
JOHN PURSER, M.A., Registrar.

GUY'S HOSPITAL.—The Medical Session commences on MONDAY, October 1.

The Hospital contains, besides the beds for Medical and Surgical cases, wards for Obstetric, Ophthalmic, and other special departments.

The Museum of Anatomy, Pathology, and Comparative Anatomy—Curator, Dr. Goodhart—contains 11,000 specimens, 4,500 drawings and diagrams, a unique collection of anatomical models, and a series of 800 models of skin diseases.

APPOINTMENTS.—The House-Surgeons and House-Physicians, the Obstetric Residents, Clinical Assistants, and Dressers are selected from the Students according to merit and without payment. There are also a large number of junior appointments, every part of the Hospital practice being systematically employed for instruction.

ENTRANCE SCHOLARSHIPS.—Open Scholarships of 125 guineas, in Classics, Mathematics, and Modern Languages. Open Scholarship of 125 guineas, in Chemistry, Physics, Botany, and Zoology.

PRIZES, &c.—Six Scholarships, varying in value from £10 to £50 each, for general proficiency in Medical Study; the Treasurer's Gold Medal in Medicine; the Treasurer's Gold Medal in Surgery; the Gurney Hoare Prize of £25 for Clinical Study; the Beany Prize of 30 guineas for Pathology; the Sands Cox Scholarship of £15 per annum for three years for Physiology; the Michael Harris Prize of £10 for Anatomy; the Mackenzie Bacon Prize of £10 for Ophthalmoscopy.

For further information apply to the Dean, Dr. F. Taylor.
Guy's Hospital, London, S.E., July 1883.

THE DENTAL HOSPITAL OF LONDON

MEDICAL SCHOOL, Leicester Square.—The WINTER SESSION will commence on Monday, October 2.

LECTURES.

Mechanical Dentistry—Dr. Walker, M.R.C.S., L.D.S., on Wednesdays, at 5 P.M., commencing on October 4.
Metallurgy—Prof. Huntingdon (King's Coll.), F.I.C., F.C.S., &c., on Tuesdays, at 12 o'clock, commencing on October 3.

The SUMMER SESSION will commence in May 1883.

Dental Surgery and Pathology—Mr. Alfred Coleman, F.R.C.S., L.D.S., on Tuesdays and Fridays, at 8 A.M.
Dental Anatomy and Physiology (Human and Comparative)—Mr. C. S. Tomes, F.R.S., M.A. Oxon., M.R.C.S., L.D.S., on Wednesdays and Saturdays, at 8 A.M.

General fee for Special Lectures required by the curriculum, £15 15s.

DENTAL HOSPITAL OF LONDON.

Consulting Physician—Sir Thomas Watson, Bart., M.D.
Consulting Surgeon—Mr. Christopher Heath, F.R.C.S.
Consulting Dental Surgeons—Mr. S. Cartwright, F.R.C.S.; Mr. John Tomes, F.R.S.

	Dental Surgeons.	*Assist. Dental Surgeons.*
Monday, 9 A.M.	.... Mr. D. Hepburn	.... Mr. F. Canton.
Tuesday ,,	.... Mr. R. Woodhouse	.. Mr. A. S. Underwood.
Wednesday ,,	.... Mr. Gregson	..... Mr. Claude Rogers.
Thursday ,,	.... Mr. Hutchinson	..... Mr. G. Parkinson.
Friday ,,	.... Mr. Moon	..... Mr. Storer Bennett.
Saturday ,,	.... Mr. A. Hill	..... Mr. Truman.

Chloroformists—Mr. Clover, F.R.C.S.; Mr. Braine, F.R.C.S.; Mr. Bailey, M.R.C.S.; Mr. T. Bird, F.R.C.S.
Medical Tutor—Mr. Morton Smale, M.R.C.S., L.D.S., L.S.A.
Demonstrators—Mr. Claude Rogers, M.R.C.S., L.D.S., D.M.D., and Mr. John Ackery, M.R.C.S., L.D.S.
House-Surgeon Mr. J. O. Butcher, L.D.S.E.
Assistant House-Surgeon—Mr. H. L. Pillin.

The Medical Tutor holds Classes before each examination. The Demonstrator attends each day.

The House-Surgeon and Assistant House-Surgeon attend daily while the Hospital is open.

On every day during the Lecture Session the Surgeons of the day will, if practicable, give Demonstrations, especially intended for the junior pupils, of the Operations performed in Dental Surgery.

The Saunders Scholarship of £20 per annum and Prizes are open for competition.

Fee for two years' Hospital Practice required by the curriculum, £15 15s. Fees for Lectures and Practice, £31 10s. Additional fees for a General Hospital for the two years to fulfil the requirements of the curriculum vary from £40 to £50.

Further particulars may be obtained on application to the Dean, at his private residence, 11 Bedford Square, W.C., or at the Hospital, where he will attend in the afternoons from September 26 to October 1 inclusive, from 5 till 5.30 o'clock, or on Wednesday mornings from 10.30 till 12.

T. F. KEN UNDERWOOD, Dean.

ROYAL LONDON OPHTHALMIC HOSPITAL, BLOMFIELD ST., MOORFIELDS, E.C.

Open daily for the reception of Out-patients from 8 until 10 o'clock, A.M. Operations daily at half-past ten until half-past twelve. Beds for In-patients, 100. Out-patients, over 20,000 yearly.

Students are admitted to the Practice and to Lectures and Demonstrations in the Winter Months. Fees, £3 3s. for six months; £5 5s. perpetual.

Students of the Hospital are eligible for the office of House Surgeon, and may be appointed Clinical Assistants.

For further particulars apply to the Secretary.
August 31, 1883.

THE ADELAIDE MEDICAL and SURGICAL HOSPITALS, PETER STREET, DUBLIN.

Fee for Nine Months' Hospital attendance, £12 12s. ; Six Months, £8 8s. ; Summer Three Months, £5 5s.

The central position of these Hospitals renders them peculiarly convenient to Gentlemen attending Lectures at the Carmichael Medical and Surgical College, Royal College of Surgeons, the University and Ledwich Schools.

The arrangements for Clinical Teaching have been made as complete as possible, and are such as not to interfere with attendance at the Medical Schools.

There are Wards for Infants and Children, and there is a large detached Fever Hospital.

Special hours are devoted to Clinical Instruction in the Diseases peculiar to Women ; and Students are individually instructed in the use of the Stethoscope, Opthalmoscope, and Microscope in its application to Clinical Medicine.

The Dispensaries afford great facilities for the study of Cutaneous Diseases, Eye, Ear, and Throat Diseases, and of Minor Surgery and Dentistry.

Three Resident Pupils are selected half-yearly.

At the termination of the Session, Junior Prizes in Clinical Medicine and Surgery will be awarded.

HUDSON SCHOLARSHIP.—In addition to the Junior Prizes, the Hudson Scholarship, £30 and a gold medal, as well as a Prize of £1c, together with a silver medal, will be awarded at the end of the Session for proficiency in Clinical Medicine and Medical Pathology ; Clinical Surgery and Surgical Pathology ; Pathological Histology ; Surgical Appliances, including instruments and bandaging ; Ophthalmology and Gynæcology.

The Certificates of Attendance are recognised by all the Universities, Colleges, and Licensing Bodies in the United Kingdom.

Physicians—Henry H. Head, M.D., M.R.I.A., late President of the King and Queen's College of Physicians ; James Little, M.D., M.R.I.A., Consultant Physician to the Rotundo Lying-in-Hospital and St. Mark's Ophthalmic Hospital, Professor of Practice of Medicine, Royal College of Surgeons.

Surgeons—John K. Barton, M.D., President Royal College of Surgeons, Senior Lecturer on Surgery in the Carmichael Medical and Surgical College ; Kendal Franks, M.D., Univ. Dub., F.R.C.S.I., Surgeon of the Dublin Throat and Ear Hospital, Senior Demonstrator of Anatomy, Royal College of Surgeons.

Obstetric Surgeon — Richard Dancer Purefoy, M.B., T.C.D., F.R.C.S.I., late Assistant Master of the Rotundo Hospital.

Ophthalmic and Aural Surgeon—Hy. Rosborough Swanzy, M.A., M.B., Examiner in Ophthalmology, Royal College of Surgeons, Surgeon National Eye and Ear Infirmary, Dublin.

Dental Surgeon—R. Theodore Stack, M.D., Univ. Dub., F.R.C.S.I., D.M.D. Harv., Surgeon of the Dental Hospital, York Street.

Assistant Physician—Wallace Beatty, M.B. and B.Ch., T.C.D.

Further particulars may be obtained from Mr. B. Wills Richardson, 22 Ely Place, or any of the other Members of the Medical Staff.

UNIVERSITY COLLEGE, BRISTOL.—MEDICAL SCHOOL.

The WINTER SESSION will commence on Monday, October 1.

LECTURERS.

Medicine—W. H. Spencer, M.A., M.D.Cantab., and E. Markham Skerritt, M.D.Lond., B.A., M.R.C.P.
Surgery—N. C. Dobson, F.R.C.S.
Anatomy—F. R. Cross, M.B.Lond., F.R.C.S.
Practical Anatomy—Demonstrator, W. H. Harsant, F.R.C.S.
Physiology—R. Shingleton Smith, M.D.Lond., B.Sc., M.R.C.P.
Chemistry—T. Coomber, F.C.S.
Hygiene—D. Davies, M.R.C.S.
Midwifery and Diseases of Women—J. G. Swayne, M.D.Lond., and A. E. Aust Lawrence, M.D.
Medical Jurisprudence—R. Eager, M.D.Lond., and A. J. Harrison, M.B.Lond.
Pathology and Morbid Anatomy—W. H. Spencer, M.A., M.D. Cantab, and E. Markham Skerritt, M.D.Lond., B.A., M.R.C.P.
Operative Surgery—W. P. Keall, M.R.C.S.
Practical Surgery—A. W. Prichard, M.R.C.S.
Materia Medica and Therapeutics—J. E. Shaw, M.D.Ed.
Practical Physiology and Histology—G. F. Atchley, M.B.Lond.
Demonstrator of Physiology—G. M. Smith, M.R.C.S.
Botany—A. Leipner.
Practical Chemistry—T. Coomber, F.C.S.
Comparative Anatomy—Prof. W. J. Sollas, M.A.Cantab.
Medical Tutor—A. N. Little.

COMPOSITION FEE for Lectures, 60 Guineas.

HOSPITAL PRACTICE may be attended either at the Bristol Royal Infirmary or at the Bristol General Hospital.

FEES, including Clinical Lectures—INFIRMARY : Perpetual Medical and Surgical Practice 20 guineas each, or in one payment 35 guineas. HOSPITAL : Perpetual Medical and Surgical Practice £20 each.

SCHOLARSHIPS AND PRIZES.—Numerous valuable Scholarships and Prizes are offered by the Medical School, and by the Infirmary and the Hospital.

For Prospectus and particulars apply to
E. MARKHAM SKERRITT, M.D., Hon. Sec.
Medical School, University College, Tyndall's Park, Bristol.

MEDICAL SCHOOL, QUEEN'S COLLEGE, BIRMINGHAM.—Students' Text-Books, Note-Books, &c. CORNISH BROTHERS, 37 New Street.

SCHOOL OF MEDICINE, EDINBURGH.

FOUNDED 1505.

The Lectures qualify for the University of Edinburgh and the other Universities ; the Royal Colleges of Physicians and Surgeons of Edinburgh, London, and Dublin, and the other Medical and Public Boards.

WINTER SESSION, 1883-84.

On Monday, October 1, the Practical Anatomy Rooms and Chemical Laboratories will be opened.

On Tuesday, October 23, the Lectures will be commenced.

Anatomy	Practical Anatomy . .	Mr. J. Symington.
	Course of Lectures . .	
	Course of Demonstrations .	
Anatomy	Practical Anatomy . .	Mr. Charles W. Cathcart.
	Course of Lectures . .	
	Course of Demonstrations .	
Chemistry	Lectures	Dr. Stevenson Macadam.
	Practical Chemistry . .	
	Analytical Chemistry . .	
Chemistry	Lectures	Mr. J. Falconer King.
	Practical Chemistry . .	
	Analytical Chemistry . .	
Chemistry	Practical Chemistry . .	Mr. Ivison Macadam.
	Analytical Chemistry . .	
Chemistry	Lectures	Dr. Drinkwater.
	Practical Chemistry . .	
	Analytical Chemistry . .	
Chemistry	Lectures	Mr. J. Y. Buchanan.
	Practical Chemistry . .	
	Analytical Chemistry . .	
Practice of Physic		Dr. John Wyllie.
Practice of Physic		Dr. J. O. Affleck.
Practice of Physic		Dr. Byrom Bramwell.
General Pathology		Dr. J. B. Buist.
Surgery		Mr. Duncan.
Surgery		Mr. A. G. Miller.
Surgery		Dr. C. W. MacGillivray.
Midwifery and Diseases of Women and Children		Dr. Charles Bell.
Midwifery and Diseases of Women and Children		Dr. Peter Young.
Institutes of Medicine		Dr. James.
Institutes of Medicine		Mr. James Hunter.
Practical Physiology		
Royal Infirmary		
Clinical Medicine		Drs. Claud Muirhead, Brackenridge, and Wyllie. Dr. Angus Macdonald. (*For Diseases of Women.*)
,, ,,	Tutorial Class for Physical Diagnosis.*	
Clinical Surgery		Mr. Joseph Bell.
,, ,,	Tutorial Class for Practical Surgery.*	
Medical Jurisprudence and Public Health		Dr. Littlejohn.
Materia Medica and Therapeutics . .		Dr. Francis W. Moinet.
Materia Medica and Therapeutics . .		Dr. William Craig.
Practical Materia Medica, including Practical Pharmacy		
Diseases of the Ear		Dr. Kirk Duncanson.
Diseases of the Eye		Dr. John Robertson.
Vaccination		Dr. Husband.
Diseases of Children		Dr. James Andrew.
Diseases of Children		Dr. James Carmichael.
Practical Midwifery		Dr. Angus Macdonald.
Practical Gynæcology		Dr. Halliday Croom.
Practical Midwifery		Dr. Charles Bell.
Practical Widwifery and Clinical Gynæcology		Dr. Peter Young.
Practical Gynæcology		Dr. D. Berry Hart.

*Under the Superintendence of the Lecturers on Clinical Medicine and Surgery.

SUMMER SESSION, 1884.

On Thursday, 1st May, Classes will commence.

The *minimum cost* of the Education in this School of Medicine for the DOUBLE QUALIFICATION of Physician and Surgeon from the ROYAL COLLEGES of PHYSICIANS and SURGEONS, including the Fees for the Joint Examination, is £95, which is payable by yearly instalments during the period of study ; whilst the *minimum cost* for the SINGLE QUALIFICATION of either PHYSICIAN or SURGEON, including Fee for Examination, is £85.

STEVENSON MACADAM, *Secretary*.

A detailed Prospectus of the Classes will be forwarded on Application to the Secretary, whose address is Surgeons' Hall, Edinburgh.

KING AND QUEEN'S COLLEGE OF PHYSICIANS IN IRELAND.

NOTICE TO CANDIDATES.

An Examination in the subjects of the PREVIOUS or FIRST PROFESSIONAL EXAMINATION is held quarterly, in January, April, July, and October. An Examination in the subjects of the FINAL EXAMINATION for the LICENCE of the COLLEGE to PRACTISE MEDICINE is held on the MONDAY, TUESDAY, and WEDNESDAY following the first Friday in each month, excepting August and September, and that for the LICENCE to PRACTISE MIDWIFERY on the following day. Gentlemen wishing to present themselves should make application a fortnight previously.

At the Final Examination for the Licence in Medicine of the College, Candidates will be examined as follows:—

1. By printed questions; 2. At the bedside; 3. By oral questions.

The subjects of the FINAL EXAMINATION are Practice of Medicine, Clinical Medicine, Pathology, Medical Jurisprudence, Midwifery, Hygiene, and Therapeutics. The subjects of the PREVIOUS or FIRST PROFESSIONAL EXAMINATION are Anatomy, Physiology, Practical Histology, Chemistry, and Materia Medica.

Candidates qualified as follows are required to undergo the Final Examination only:—

1. Candidates who have obtained by examination any one registrable qualification.

2. Graduates in Medicine of a Foreign University recognised by the College.

3. Candidates who, having completed the Curriculum required by the College, shall have passed the Previous Examination or Examinations (where there are more than one) of any of the Licensing Corporations in the United Kingdom.

N.B.—Registered Practitioners of five years' standing will be exempted from the written portion of the Examination.

The NEXT EXAMINATIONS will be held on MONDAY, TUESDAY, WEDNESDAY, and THURSDAY, the 8th, 9th, 10th, and 11th OCTOBER proximo.

STATED EXAMINATIONS for the CERTIFICATES in SANITARY SCIENCE are held Quarterly on the Thursday and Friday following the first Friday of the months of January, April, July, and October.

The Examination comprises the following subjects:—Ætiology and Prevention of Disease, Engineering, Law, Chemistry, Vital Statistics, Meteorology, and Climatology.

Licentiates in Medicine of the College alone are eligible as Candidates.

J. W. MOORE, M.D., Dublin,
Fellow and Registrar.

College Hall, Kildare Street, Dublin, August 1883.

MEDICAL FACULTY OF UNIVERSITY COLLEGE, LIVERPOOL
(ROYAL INFIRMARY SCHOOL OF MEDICINE).

PROFESSORS AND LECTURERS.

Medicine—A. T. H. Waters, M.D., F.R.C.P.
Surgery—Rushton Parker, F.R.C.S.
Anatomy—W. Mitchell Banks, F.R.C.S.
Physiology—Richard Caton, M.D., M.R.C.P.
Pathology—A. Davidson, M.A., M.D., M.R.C.P.
Ophthalmology—T. S. Walker, M.R.C.S.
Chemistry—J. Campbell Brown, D.Sc., Lond.
Experimental Physics—Oliver J. Lodge, D.Sc., Lond.
Midwifery and Gynæcology—J. Wallace, M.D.
Clinical Medicine—A. T. H. Waters, M.D., F.R.C.P.; T. R. Glynn, M.D., F.R.C.P.; A. Davidson, M.A., M.D., M.R.C.P.
Clinical Surgery—E. R. Bicker-teth, F.R.C.S.; Reginald Harrison, F.R.C.S.; W. Mitchell Banks, F.R.C.S.
Diseases of Children—Robert Gee, M.D., M.R.C.P.
Materia Medica—W. Carter, LL.B., M.D., B.Sc.
Medical Jurisprudence—Ewing Whittle, M.D.
Botany—George Shearer, M.D., F.L.S.
Comparative Anatomy and Zoology—W. A. Herdman, D.Sc., F.L.S.

SCHOOL OF DENTAL SURGERY.

Dental Surgery—E. J. M. Phillips, L.D.S., M.R.C.S.
Dental Mechanics—R. E. Stewart, L.D.S., R.C.S.
Dental Anatomy and Physiology—F. T. Paul, F.R.C.S.
Dental Metallurgy—E. A. Councell, L.D.S., R.C.S.

The Medical and Surgical Tutors and the Demonstrators of Anatomy, Physiology, and Chemistry are in daily attendance at the Hospital and Medical School.

Numerous Prizes and Scholarships are offered for competition annually.

The Opening Meeting of the WINTER SESSION will take place on Saturday, September 29th, at 3 P.M. The Chair will be taken by the Right Hon. the EARL OF DERBY, President of the College. An Introductory Address will be delivered by MATTHEW ARNOLD, Esq.

The Meeting will take place in St. George's Hall.

The Annual Dinner, under the Presidency of Dr. Glyno, will take place at the Adelphi Hotel, at 7 o'clock.

The College and School of Medicine are closely adjacent to the Royal Infirmary, and in the neighbourhood of the Eye and Ear Infirmary, and in the Lying-in Hospital.

A prospectus and further information can be obtained from the Dean of the Medical Faculty, Dr. Caton, 18A Abercromby Square, Liverpool.

UNIVERSITY OF GLASGOW.

SESSION 1883-84.

The MEDICAL SESSION will be Opened with an Introductory Discourse, by Professor YOUNG, M.D., on Tuesday, the 30th October, 1883.

WINTER COURSES.

Zoology, 9 a.m.—Professor Young.
Clinical Medicine, 9 a.m.—Professor M'Call Anderson and Professor Gairdner.
Clinical Surgery, 9 a.m.—Professor George Buchanan and Professor Macleod.
Chemistry, 10 a.m.: and Chemical Laboratory, 9 a.m. to 4 p.m.—Professor Ferguson.
Anatomy: Senior, 1 a.m.; Junior, 2 p.m.: and Practical Anatomy, 9 a.m. to 4 p.m.—Professor Cleland, J. Yule Mackay, M.B., and other Demonstrators.
Practice of Physic, 11 a.m.—Professor Gairdner.
Materia Medica 12 noon, and Pharmaceutical Laboratory—Professor Charteris and Dr. Napier.
Institutes of Medicine, 12 noon, and Physiological Laboratory—Professor M'Kendrick, and Mr. J. M'Gregor Robertson, M.A., M.B., the Muirhead Demonstrator.
Surgery, 1 p.m.—Professor Macleod.
Midwifery, 2 a.m.—Professor Leishman.
Public Health—Professor Simpson.

SUMMER SESSION.

During the Summer Session the Courses of Botany (Professor Bailey Balfour), Practical Chemistry, Forensic Medicine (Professor Simpson), and Clinical Medicine and Clinical Surgery are given. There are also Courses of Anatomy (Lectures on Embryology), Practical Anatomy, Practical Zoology, Vegetable Histology and Practical Botany, Practical Physiology (including Histology), Practical Materia Medica, Practice of Physic, Practical Patnological Histology, Operative Surgery, and Diseases of Women.

LECTURERS.

Pathology—The Courses of the Pathologist of the Western Infirmary Dr. Joseph Coats, and of the Pathologist of the Royal Infirmary are recognised.
Diseases of the Eye—Thomas Reid, M.D., Waltonian Lecturer (Summer Course).
Insanity—Dr. David Yellowlees, Royal Asylum, Gartnavel (Summer Course).

WESTERN INFIRMARY.—This Hospital, near the University, contains 400 beds for Medical and Surgical patients, also Wards for Skin Diseases, and one for Diseases peculiar to Females.

DEGREES.—Three Medical Degrees are conferred, viz.: Bachelor of Medicine (M.B.) and Master of Surgery (C.M.), which must be taken together, and Doctor of Medicine (M.D.): all of which are recognised by the Medical Act as qualifying for practice throughout the British Dominions.

COST OF EDUCATION.—The Fee for each Class is £3 3s., and the total minimum expenses for Classes, Hospital, and Graduation Fees for M.B. and C.M. amount to about £90. The Fee for M.D. is £15 8s.

BURSARIES.—Bursaries to the annual amount of about £1,000 may be held by Students during their medical studies.

Full particulars connected with the course of education and examination required for the Degrees, and the Preliminary Examination required to be passed by Students before beginning medical study, will be found in the University Calendar (by post 3s.); or a syllabus of the regulations, fees, &c., may be obtained by applying to Mr. Moir, Assistant Clerk of Senate.

THE NEW VETERINARY COLLEGE, LEITH WALK, EDINBURGH.

Affiliated by Her Majesty's Royal Sign Manual with the Royal College of Veterinary Surgeons.

SESSIONS 1883-84.

The WINTER SESSION will commence on WEDNESDAY, OCTOBER 24, 1883, the Introductory Address being delivered in the Theatre of the College, at One o'clock P.M., by the Principal, when a Deputation from the Highland and Agricultural Society of Scotland will be present.

The Most Noble the Marquis of Lothian, K.T., in the Chair.

STAFF OF PROFESSORS AND SUBJECTS TAUGHT.

Veterinary Medicine and Surgery—Professor Williams, F.R.S.E. F.R.C.V.S., F.R.P.S., Principal. Ex-President of The Royal College of Veterinary Surgeons, Professor of Veterinary Surgery to the Highland and Agricultural Society of Scotland, Foreign Correspondent of the Société Centrale de Médecine Vétérinaire, Paris.
Physiology and Practical Histology—Professor James Hunter, F.R.C.S.E., L.R.C.P.E., Lecturer on Physiology, Edinburgh Medical School.
Anatomy of the Domesticated Animals—Prof. Lewis, M.R.C.V.S.
Chemistry, Practical Chemistry, and Toxicology—Dr. Stevenson Macadam, F.R.S.E.
Materia Medica and Therapeutics—Professor Lewis, M.R.C.V.S.
Botany—Professor A. N. M'Alpine, B.Sc. (London).
Morbid Anatomy—W. O. Williams, M.R.C.V.S.
Natural History and Parasites of the Domestic Animals—Professor M'Alpine.
Practical Pharmacy—W. O. Williams.
Clinical Instruction—The Principal and Assistants.

ROTUNDA HOSPITALS, RUTLAND SQ., DUBLIN.

Master—Arthur V. Macan, M.B., F.K.Q.C.P.
Consulting Physician—James Little, M.D., F.K.Q.C.P.
Consulting Surgeon—William Colles, M.D., F.R.C.S.I.
Assistant Physicians—Richard Henry, M.D., L.R.C.S.I.; John Lilly Lane, B.A., L.K.Q.C.P., L.R.C.S.I.
Pathologist—G. F. Duffey, M.D., F.K.Q.C.P., Physician to the City of Dublin Hospital.

This Institution consists of two distinct Hospitals, namely, the Lying-in Hospital, into which 1,200 labour cases are on an average admitted annually, and the Auxiliary Hospital, set apart for the reception and treatment of patients suffering from the various forms of Uterine and Ovarian Disease; about 500 patients are received into this Hospital during each year.

There is also in connection with the Hospital a large Extern Maternity (1,500 patients were in the past year attended at their own homes), and a Dispensary for Diseases Peculiar to Women, which is open daily.

Pupils are admitted to the practice of all these departments.

Clinical Instruction in Midwifery and the Diseases of Women is given daily, and Lectures are delivered regularly during the Session on these subjects.

The DIPLOMA from this Hospital is granted to Pupils on their passing an examination before the Master and Assistants, after a period of Six Months' attendance on the practice of the Hospital. It is recognised by the Local Government Board as a qualification in Midwifery for all Hospitals and Dispensaries under their control.

Accommodation is provided for a limited number of Intern Pupils. Pupils can enter at any time.

TERMS OF ATTENDANCE.—Intern Pupils: For Six Months, £21; Three Months, £12 12s.; Two Months, £9 0s.; One Month, £6 6s. Extern Pupils: For Six Months, £10 10s.; Three Months, £6 6s.

Application to be made to the Master or Assistant Physicians, at the Hospitals, Rutland Square.

WESTERN MEDICAL SCHOOL, GLASGOW.

WINTER SESSION, 1883-4.

The Winter Session will be opened on Wednesday, October 31st, at 3 P.M., by an Introductory Address by Dr. Duncan.

Anatomy, Descriptive and Practical—F. Carter, M.R.C.S.
Chemistry—J. M. Milne, Ph.D.
Physiology and Histology } Wm. Limont, M.A., M.B.
Practical Physiology }
Surgery—D. N. Knox, M.A., M.B.
Medicine—D. C. McVail, M.B.
Materia Medica and Therapeutics—Neil Carmichael, M.D.
Midwifery and Gynæcology—W. L. Reid, M.D.
Public Health—Eben. Duncan, M.D.

SUMMER SESSION.

Practical Anatomy—F. Carter, M.R.C.S.
Practical Chemistry—J. M. Milne, Ph.D.
Practical Physiology and Histology—W. Limont, M.A., M.B.
Operative Surgery—D. N. Knox, M.A., M.B.
Practical Pharmacy—Neil Carmichael, M.D.
Midwifery—W. L. Reid, M.D.
Medical Jurisprudence—Eben. Duncan, M.D.

These Lectures qualify for the Examinations of the University of Glasgow, the Faculty of Physicians and Surgeons, Glasgow, the Royal Colleges of Physicians and Surgeons, Edinburgh, London, and Dublin.

CLASS FEES.—For each Course (except Anatomy) £2 2s. Students who have attended a similar Course elsewhere will be admitted for £1 1s. Fee for Anatomy (including Practical Anatomy), £4 4s.

Further information and prospectuses may be obtained on application to Mr. KNOX, 23 Elmbank Crescent, Glasgow.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, BROMPTON.

Number of Beds in the two buildings, 331.
Consulting Physicians—C. J. B. Williams, M.D., F.R.S.; W. H. Walshe, M.D.; Richard Quain, M.B., F.R.S.; James E. Pollock, M.D.
Consulting Surgeon—Professor John Marshall, F.R.S.
Physicians—E. Symes Thompson, M.D.; C. Theodore Williams, M.D.; R. Douglas Powell, M.D.; John Tatham, M.D.; Reginald E. Thompson, M.D.; Frederick Roberts, M.D.
Assistant Physicians—T. Henry Green, M.D.; J. Mitchell Bruce, M.D.; J. Kingston Fowler, M.B.; Percy Kidd, M.D.; Cecil Y. Biss, M.B.; David A. King, M.B.
Pathologist and Curator Dr. Percy Kidd.
Dental Surgeon—Charles J. Noble, Esq.
Resident Medical Officer—Fred. J. Hicks, M.B., M.A., F.C.S.

The Clinical Practice of this Hospital is open to Students of Medicine and Practitioners. Fee for Three Months, £3 3s.; Six Months, £5 5s.; Perpetual, £10 10s.

A Course of Clinical Instruction in Auscultation will be given by the Medical Officers.

Certificates of attendance on the Medical Practice of this Hospital are recognised by the University of London, the Apothecaries' Society, and the Army and Navy and Indian Boards.

HENRY DOBBIN, Secretary.

GLASGOW ROYAL INFIRMARY AND SCHOOL OF MEDICINE.

The Winter Session of 1883-84 opens on Tuesday, 30th October. Dr. James Stirton will give the Introductory Address.

Chemistry, 10 a.m.—Dr. Milne.
Anatomy, 11 a.m.—H. E. Clark, M.R.C.S.
Surgery, 11 a.m.—Dr. Macewen.
Practice of Medicine, 1 p.m.—Dr. Anderson.
Physiology, 1 p.m.—Dr. Barlow.
Materia Medica, 3 p.m.—Dr. Dougall.

The Summer Courses are Midwifery, Forensic Medicine, Practical Chemistry, Pathology, Anatomy, Practical Physiology, Operative Surgery, Mental Diseases, Aural and Dental Surgery, and Diseases of the Eye.

Fees for each Course: First Session, £2 2s.; Second and Perpetual, £1 1s.; Anatomy, £4 4s.; Practical and Systematic Pathology, £3 3s.

HOSPITAL STAFF.

Physicians—Dr. Perry, Dr. Charteris, Dr. Maclaren, Dr. Scott Orr, Dr. Wood Smith.
Surgeons—Dr. Morton, Dr. Watson, Dr. Macewen, Dr. Dunlop, Mr. Clark.
Diseases of Women—Dr. Stirton.
Dispensary Physicians—Dr. Anderson, Dr. Dougall.
Extra Dispensary Physicians—Dr. Middleton, Dr. Henderson, Dr. Campbell Black, Dr. Macphee.
Dispensary Surgeons—Dr. Lothian, Dr. Fleming.
Extra Dispensary Surgeons—Dr. Barlow, Dr. Adams, Dr. Muir, Dr. Shaw.
Aural Surgeon—Dr. Macfie.
Dental Surgeon—Dr. Woodburn.
Diseases of Throat—Dr. Watson.
Diseases of Skin—Dr. Provan.
Pathologist—Dr. Newman.
Vaccinator—Dr. Tannahill.
Number of Beds in Hospital, 542.

FEES.—For Hospital Practice and Clinical Lectures—First Year, £10 10s.; Second and Perpetual, £10 10s.; Six Months, £6 6s.; Three Months, £4 4s.

Prospectus can be obtained from Dr. Thomas, the Superintendent of the Hospital.

THE MIDDLESEX HOSPITAL MEDICAL SCHOOL.

—The WINTER SESSION will open on Monday, October 1st, at 3 P.M., with an Introductory Address, by A. PEARCE GOULD, Esq., M.S., after which the Prizes awarded during the previous Winter and Summer Sessions will be distributed.

The ANNUAL DINNER of the past and present Students and their friends will take place the same evening at St. James's Hall.

The Hospital contains 310 beds, and there are special departments for Cancer, Diseases of the Eye, Women, and Syphilis; also Out-Patients' Department for Diseases of Children, the Throat, and Ear and Skin.

HOSPITAL STAFF AND LECTURERS.

Consulting Physicians—Dr. Goodfellow, Dr. Henry Thompson, Dr. Greenhow, F.R.S.
Physicians—Dr. Cayley, Dr. Sydney Coupland, Dr. Douglas Powell.
Assistant Physicians—Dr. David Finlay, Dr. J. K. Fowler, Dr. C. Y. Biss.
Obstetric Physician—Dr. J. Hall Davis.
Physician to the Skin Department—Dr. Robert Liveing.
Assistant Obstetric Physician—Dr. Arthur W. Edis.
Consulting Surgeons—Mr. Shaw, Mr. Nunn.
Surgeons—Mr. Hulke, F.R.S., Mr. George Lawson, Mr. Henry Morris.
Assistant Surgeons—Mr. Andrew Clarke, Mr. A. Pearce Gould.
Ophthalmic Surgeon—Mr. William Lang.
Aural Surgeon—Mr. Arthur Hensman.
Consulting Dental Surgeons—Mr. Tomes, F.R.S., and Mr. Turner.
Dental Surgeon—Mr. Storer Bennett.
Assistant Dental Surgeon—Mr. Claude Rogers.
Other Lecturers—Mr. B. T. Lowne, Dr. Thorowgood, Mr. Foster, Mr. Henry Case, Mr. J. B. Sutton.

Two Entrance Scholarships, value £25 and £20 per annum respectively, and an Entrance Science Scholarship, value £50, will be competed for on September 28th and following days.

For further information and for a Prospectus, apply to the Dean, or the Resident Medical Officer, at the Hospital.

LEEDS SCHOOL OF MEDICINE. — The

WINTER SESSION will begin on October 1st. The Introductory Lecture will be given at 4 P.M. by T. Clifford Allbutt, M.A., M.D., F.R.S.

The Lectures and Hospital Practice qualify Students for the various examining boards. Students can enter for the Hospital Practice or the Lectures or for a single course of lectures separately.

The Infirmary, in which the Medical and Surgical Practice is conducted, has an average of over 200 in-patients. Senior Students are selected according to merit for several resident appointments. The Dispensary and Fever Hospital are also open to Students. In addition to medals and book prizes, three money prizes of £10 each and two of £5 each are offered for competition.

Applications for tickets should be addressed to the Treasurer, Mr. T. Scattergood.

The Prospectus and further information may be obtained from the Honorary Secretary, Dr. CHURTON, 35 Park Square, Leeds.

KING'S COLLEGE, LONDON.—MEDICAL DEPARTMENT.

The WINTER SESSION will be opened on TUESDAY, October 2, at 4 P.M., when the Distribution of Prizes will take place and an Address be given by Henry Acland, Esq., M.D.

PROFESSORS.

Anatomy—Professor John Curnow, M.D., F.R.C.P.
Physiology and Practical Physiology—Professor Gerald F. Yeo, M.D., F.R.C.S.
Demonstrators—J. W. Groves, F.C.S.; N. T. Brooks.
Chemistry and Practical Chemistry—Professor C. L. Bloxam, F.C.S.
Demonstrators—J. M. Thomson, F.C.S., and G. S. Johnson, F.C.S.
Medicine (Principles and Practice of)—Professor L. S. Beale, M.B., F.R.S.
Clinical Medicine—Professor George Johnson, M.D., F.R.S.
Surgery and Practical Surgery—Professor Henry Smith, F.R.C.S.
Demonstrators—H. Roes Bell, F.R.C.S.; W. Rose, B.S., M.B., F.R.C.S.; W. W. Cheyne, F.R.C.S., C.M.
Clinical Surgery—Professor Wood, F.R.S.; Professor Lister, F.R.S.
Botany—Professor Bentley, F.L.S.
Materia Medica and Therapeutics—Professor E. B. Baxter, M.D., F.R.C.P.
Obstetric Medicine and the Diseases of Women and Children—Professor W. Playfair, M.D., F.R.C.P.
Forensic Medicine—Professor D. Ferrier, M.D., F.R.S.
Comparative Anatomy and Zoology—Professor F. Jeffrey Bell, M.A.
Pathological Anatomy—Professor A. B. Duffin, M.D., F.R.C.P.
Hygiene—Professor Charles Kelly, M.D., F.R.C.P.
Dental Surgery—Professor S. Hamilton Cartwright, M.R.C.S.
Ophthalmology—Professor M. M. McHardy, F.R.C.S. Edin.
Psychological Medicine—Professor Edgar Sheppard, M.D.
Dean of the Faculty—Professor Bentley, F.L.S.
Medical Tutor and Sub-Dean—N. I. C. Tirard, M.D.

PRELIMINARY SCIENTIFIC EXAMINATION OF THE UNIVERSITY OF LONDON.

Special Courses of Lectures and Practical Instruction in the Chemical, Physical, and Physiological Laboratories, have been arranged for students preparing for this Examination at the University of London during the Winter and Summer Sessions.

KING'S COLLEGE HOSPITAL.

Clinical Lectures are given daily by the Physicians and Surgeons. Clinical Instruction is also given in Diseases of the Eye and Throat, in Skin Diseases, and in diseases of the Ear.
Physicians—Dr. G. Johnson, Dr. L. S. Beale, Dr. Duffin, Dr. Burney Yeo, Dr. Ferrier, Dr. Baxter, Dr. Curnow.
Physicians for Diseases of Women and Children and Physician-Accoucheurs—Dr. W. Playfair, Dr. T. C. Hayes.
Surgeons—John Wood, F.R.S.; Joseph Lister, F.R.S.; H. Smith, F.R.C.S.; H. Royes Bell, F.R.C.S.
Assistant-Surgeons—William Rose, F.R.C.S.; W. W. Cheyne, F.R.C.S.
Dental Surgeon—S. Hamilton Cartwright, F.R.C.S.
Ophthalmic Surgeon—M. M. McHardy, F.R.C.S., Edin.
Aural Surgeon—Urban Pritchard, F.R.C.S., M.D.
Chloroformist—Charles Moss, M.R.C.S.
Vaccinator—R. W. Dunn, M.R.C.S.

The Dental, Aural, Skin, and Throat Departments, and Wards for Children and Ophthalmic Cases are attached to the Hospital.

The Physician's Assistant, Physician-Accoucheur's Assistant, and House Surgeons, as also their Assistants, Clinical Clerks, and Dressers are selected by examination from among the students, without extra fees: and have rooms and commons free.

SCHOLARSHIPS, EXHIBITIONS, REGISTRARSHIPS, AND PRIZES.

Warneford Scholarships.—Students entering the Medical Department of the College in October will have the exclusive privilege of contending for Two Scholarships of £75 each. These Scholarships are given for proficiency in Divinity, Classics, Mathematics, History, English, Chemistry, Botany, and Natural Philosophy.

Five Medical Scholarships are awarded at the close of each Winter Session for proficiency in professional subjects, viz.: one of £80, one for £30, and three of £20.

A Warneford Scholarship of £50 is also annually awarded for proficiency in Divinity, Medicine, Surgery, and Hospital Practice.

Sambrooke Registrarships: Two of £50, tenable for two years, are annually awarded to Matriculated Students of this department.

Sambrooke Exhibitions: Two annually, one of £60 and one of £40, are awarded for proficiency in English.

For Particulars apply to Professor Curnow, M.D., or to T. W. Cunningham, Esq., King's College, London.

THE MASON SCIENCE COLLEGE, BIRMINGHAM.

SESSION 1883-84.

The SESSION will COMMENCE on Tuesday, October 2, 1883.

The Calendar, containing full information as to the Admission of Students, the Courses of Instruction, Fees, &c., is published by Cornish Brothers, New Street, Birmingham, price 2s.; by Post, 2s. 5d. GEO. H. MORLEY, Secretary.

WESTMINSTER HOSPITAL MEDICAL SCHOOL (opposite Westminster Abbey).—Founded 1834.

HOSPITAL STAFF.

Consulting Physicians—Dr. Radcliffe, Dr. Fincham.
Physicians—Dr. Sturges, Dr. Allchin, Dr. Donkin.
Assistant-Physicians—Dr. de Havilland Hall, Dr. Hughes Bennett, Dr. Murrell.
Consulting Surgeons—Mr. Barnard Holt, Mr. Holthouse.
Surgeons—Mr. Cowell, Mr. Richard Davy, Mr. Macnamara.
Assistant-Surgeons—Mr. Cooke, Mr. Bond, Mr. Boyce Barrow.
Obstetric Physician—Dr. Potter.
Assistant Obstetric Physician—Dr. Grigg.
Dental Surgeons—Dr. Walker, Mr. Morton Smale.
Aural Surgeon—Mr. Keene.
Surgeon in Charge of the Eye Department—Mr. Cowell.
Surgeon in Charge of the Orthopædic Department—Mr. R. Davy.
Physician in Charge of the Skin Department—Dr. Allchin.
Physician in Charge of the Throat Department—Dr. de Havilland Hall.

LECTURES, &c.

Medicine—Dr. Sturges, Dr. Allchin. Surgery—Mr. Cowell, Mr. Macnamara. Practical and Operative Surgery—Mr. Richard Davy. Anatomy—Mr. James Black. Dissections—Dr. Sanderson. Pathology—Dr. Allchin, F.R.S.E. Physiology and Histology—Dr. Heneage Gibbes. Chemistry, Practical Chemistry and Toxicology—Dr. Dupré, F.R.S., Mr. O. Hehner, F.C.S. Materia Medica and Therapeutics—Dr. Murrell. Botany—Mr. Worsley-Benison. Midwifery—Dr. Potter. Forensic Medicine and Hygiene—Dr. de Havilland Hall. Psychology—Dr. Sutherland. Ophthalmic Surgery—Mr. Cowell. Orthopædic Surgery—Mr. R. Davy. Dental Surgery—Dr. Walker. Skin Diseases—Dr. Allchin. Aural Surgery—Mr. Keene. Comparative Anatomy—Dr. Leslie Ogilvie. Experimental Physics—Dr. George Ogilvie. Tutors—Dr. Hall, Mr. Boyce Barrow.

The WINTER SESSION will commence on October 1st, with an Introductory Address, at 3 p.m., by Mr. Boyce Barrow, after which the Prizes of the past year will be distributed.

Two Entrance Scholarships (next October), value £80 and £40 respectively. Subjects—Latin, Mathematics, French or German, and Chemistry, and Natural Philosophy. The Latin Books the same as the June Examination of the University of London Matriculation (Ovid, Metamorphoses, Book II., and Epistolæ Ex Ponto, Book I.)

There are also the Treasurer's Prize, value £10 10s., for first year's subjects; the President's Prize, in Anatomy and Physiology, value £21, for second year's men, given by His Grace the Duke of Westminster; Prizes for Clinical Medicine and Surgery of £5 each; the Frederick Bird Medal and Prize, value £15; the Chadwick Prize for general proficiency, value £21; and special class prizes; numerous Dresserships and Clerkships; the posts of Physiologist and Curator, 50 guineas a year; Medical and Surgical Registrar, each with £40 a year; and of House-Physicians (2), House-Surgeon, Resident Obstetric Assistant, Assistant House-Surgeon.

Fees.—In one payment, £100; in two payments, £105; or in five payments, £115. There are no extras except parts for Dissection, and the class of Experimental Physics. Fees for the shorter periods or for single Courses may be learned on application to the Dean. Fees, for Dental Students £50 in one sum, or 50 guineas in two payments.

Tutorial classes to afford special preparation for the Examining Bodies are held four times a week. Attendance on these classes is compulsory, and no additional charge is made.

Special classes for the Preliminary Scientific M.B. Examination of the London University, commencing in January. Special classes of Physiological Demonstrations, for the 1st M.B. Lond. and 1st F.R.C.S. Examinations, are held from time to time.

A prospectus forwarded and all particulars to be obtained on application to

F. de HAVILLAND HALL, M.D., Dean.

Westminster Hospital, S.W.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, MARYLEBONE ROAD, LONDON, W.

Patron—Her Majesty the Queen.

Physicians to In-patients—Dr. Hope and Dr. Chapman Grigg.

This Hospital has been recently enlarged and is in full operation. It receives nearly 700 patients annually, besides having a large out-patient maternity. The pupils are permitted to see the practice in both departments. Medical pupils are received at all times of the year. Pupils enjoy unusual opportunities of seeing obstetric complications and operative widwifery on account of the very large number of primiparous cases—upwards of three-fourths of the total admissions. Clinical instruction is given on the more important cases that present themselves in both departments. Certificates of attendance at this Hospital are received by all Universities, Colleges, and Licensing Bodies, and a diploma is granted in Midwifery. Monthly Nurses and Midwives are received for training. Fees:—Medical Pupils from £3 3s. for one week to £26 5s. for three months, exclusive of board and lodging; Pupil Midwives, £26 5s. for three months; and Pupil Nurses, £10 10s. for two months, both inclusive of board and lodging.

For further particulars, application should be made to the Secretary at the Hospital.

THE LONDON HOSPITAL AND MEDICAL COLLEGE.

HOSPITAL STAFF.

Consulting Physicians—Dr. Herbert Davies, Dr. Ramskill.
Consulting Surgeons—Mr. Curling, F.R.S., Mr. Jonathan Hutchinson, F.R.S.
Physicians—Sir Andrew Clark, Bart., Dr. Langdon Down, Dr. Hughlings Jackson F.R.S., Dr. Sutton, Dr. Fenwick, Dr. Stephen Mackenzie, Dr. Sansom, Dr. Charlewood Turner.
Assistant Physicians—Dr. Gilbart-Smith, Dr. Warner, Dr. Ralfe.
Surgeons—Mr. Couper, Mr. Rivington, Mr. Jas. Adams, Mr Warren Tay, Mr. McCarthy.
Assistant Surgeons—Mr. Reeves, Mr. Frederick Treves, Mr. C. Mansell Moullin, Mr. Hurry Fenwick.
Obstetric Physician—Dr. Herman.
Ophthalmic Surgeons—Mr. James Adams, Mr. Warren Tay.
Aural Surgeons—Dr. Edward Woakes and Mr. T. Mark Hovell.
Surgeon-Dentist—Mr. Ashley W. Barrett.

LECTURERS.

Medicine—Dr. Stephen Mackenzie
Surgery—Mr. James Adams.
Operative Surgery—Mr. James Adams.
Practical Surgery—Mr. Reeves.
Anatomy—Mr. Rivington.
Practical Anatomy—Mr. Frederick Treves.
Physiology and Practical Histology—Mr. McCarthy.
Chemistry—Dr. C. Meymott Tidy.
Chemical Physics—Mr. F. J. M. Page.
Comparative Anatomy—Mr. C. Mansell Moullin.
Pathology—Dr. Sutton.
Midwifery—Dr. Herman.
Toxicology—Dr. C. Meymott Tidy.
Medical Jurisprudence—Dr. Sansom.
Botany—Dr. F. Warner.
Practical Chemistry—
Materia Medica—Dr. Prosser James.
Diseases of the Eye—Mr. Jas. Adams.
Diseases of the Throat—Dr. Morell Mackenzie.
Diseases of the Ear—Dr. Edward Woakes.
Anatomy and Pathology of the Teeth—Mr. Ashley W. Barrett.

As Emeritus Professor of Surgery, Mr. HUTCHINSON will give in the Winter and Summer Sessions short Courses of Lectures in Clinical Surgery, consisting of Six Lectures each. The Special Subjects and the dates will be announced in due course.

The SESSION 1883-84 will commence on Monday, October 1st, 1883. The Prizes for the past Session and the Nursing Probationers Prizes will be distributed on Tuesday, October 9th, at 8 P.M., by Professor Huxley, P.R.S., who will also make an address, after which there will be a Conversazione, to which all past and present Students are invited.

Fees for Lectures and Hospital Practice, 90 guineas in one sum, or 100 guineas by three instalments.

The Hospital contains nearly 860 beds. Number of In-patients during 1882 was 7,798; out-patients 62,437.

THE RESIDENT AND OTHER HOSPITAL APPOINTMENTS are free to full Students. The Resident Appointments consist of five House-Physicianeies, five House-Surgeoncies, and one Accoucheurship. Two Dressers and two Maternity Assistants also reside in the Hospital.

TWO ENTRANCE SCIENCE SCHOLARSHIPS, value £60 and £40, and two BUXTON SCHOLARSHIPS, value £30 and £20, will be offered for competition at the end of September to new Students.

The Letheby Prize, value £30, for proficiency in Chemistry.

A Scholarship, value £20, in Human Anatomy and Physiology, to first year's Students.

A Scholarship, value £25, in Anatomy, Physiology, and Chemistry, to second year's Students.

A Scholarship, value £20, in Clinical Medicine.

A Scholarship, value £20, in Clinical Surgery.

A Scholarship, value £20, in Clinical Obstetrics.

A Duckworth's Nelson Prize, value £10 (biennial), in Clinical Medicine and Surgery.

Prizes, value £60, to Dressers of Out-patients in Minor Surgery.

Special entries for Medical and Surgical Practice are made.

The London Hospital is now in direct communication by rail and tram with all parts of the Metropolis.

For Prospectus and Particulars apply personally, or by letter, to

Mile End, E. MUNRO SCOTT, Warden.

FACULTY of PHYSICIANS and SURGEONS of GLASGOW.

PRELIMINARY EXAMINATION IN GENERAL EDUCATION.

The following are the periods at which the Preliminary Examination will be held in Session 1883-4:—In 1883, Friday, 19th October: in 1884, Friday, 28th March, Friday, 27th June, Friday, 12th September. On each occasion the Examination will be continued on the succeeding day.

Lists of Subjects and all necessary information may be had on application.

ALEXANDER DUNCAN, B.A., Secretary,
Faculty Hall, St. Vincent Street, Glasgow, September 1883.

ST. THOMAS'S HOSPITAL MEDICAL SCHOOL, Albert Embankment, London, S.E.

The WINTER SESSION of 1883-84 will COMMENCE on OCTOBER 1, when an introductory Address will be delivered by F. LE GROS CLARK, Esq., F.R.S., at 3 P.M.

Two Entrance Scholarships of £100 and £60 respectively, open to all first-year students, will be offered for competition.

The Examination will be heard on the 3rd, 4th, and 5th of October, and the subjects will be Chemistry and Physics, with either Botany and Zoology at the option of the candidates.

Special Classes are held throughout the year for the "Matriculation," "Preliminary Scientific," and "Intermediate M.B." Examinations of the University of London.

All hospital appointments are open to students without extra charge.

Scholarships and money prizes of considerable value are awarded at the sessional examinations, as also several silver and gold medals.

The fees may be paid in one sum or by instalments. Special entries may be made to lectures or to hospital practice and special arrangements are made for students entering in their second or subsequent years, also for dental students and for qualified practitioners.

Several medical practitioners and private families residing in the neighbourhood receive students for residence and supervision, and a register of inspected and approved lodgings is kept in the secretary's office.

Prospectuses and all particulars may be obtained from the secretary, G. Rendle, Esq. W. M. ORD, M.D., Dean.

LONDON SCHOOL OF MEDICINE FOR WOMEN, 30 Henrietta Street, Brunswick Square, W.C., in association with the Royal Free Hospital, Gray's Inn Road.

Anatomy—Stanley Boyd, M.B., F.R.C.S.
Physiology—Augustus Waller, M.D.
Chemistry—C. W. Heaton, F.C.S.
Botany—Dr. Stokoe, B.A., F.L.S.
Materia Medica—Dr. S. West.
Practice of Medicine—Mrs. Anderson, M.D.; Dr. H. Donkin.
Midwifery—Dr. Ford Anderson.
Diseases of Women—Dr. Louisa Atkins.
Forensic Medicine—Dr. Dupré, F.R.S., F.C.S.; T. Bond, F.R.C.S.
Pathology—Dr. W. Allen Sturge.
Zoology and Biology—Dr. Murie, F.L.S.
Hygiene—Dr. Sophia Jex-Blake; Dr. Edith Pechey.
Mental Pathology—Dr. Sankey.
Ophthalmic Surgery—James Adams, F.R.C.S.
Minor Surgery—James Shuter, M.B., F.R.C.S.
Experimental Physics—Edmund Neison, F.C.S.
Demonstrator of Anatomy—Miss F. Nightingale Toms.

MEDICAL OFFICERS AT THE ROYAL FREE HOSPITAL.

Physicians—Dr. Cockle, F.R.C.P.; Dr. Buchanan Baxter, F.R.C.P.
Surgeons—F. T. Gant, F.R.C.S.; W. Rose, F.R.C.S.
Assistant Physician—Dr. Samuel West.
Assistant Surgeon—James Shuter, M.B., F.R.C.S.
Physician for the Diseases of Women—Dr. W. Hayes.
Ophthalmic Surgeon—Grosvenor Mackinlay, F.R.C.S.
Pathological Demonstrator—Dr. Samuel West.

DEAN OF THE SCHOOL.

Mrs. Garrett Anderson, M.D.

Compounder's Fee for Non-Clinical Instruction, £80; Hospital Fee, £45. For further particulars apply to

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Principal—Professor THOMAS WALLEY, M.R.C.V.S.

WINTER SESSION commences 24th OCTOBER.

Prospectus and full particulars on application.

CLASSES open to Amateurs.

OWENS COLLEGE, MANCHESTER.—MR. CORNISH begs to inform students that all the Class-Books, Stationery, &c., may be had at his room in the Owens College.

SIR JOSIAH MASON'S SCIENCE COLLEGE, BIRMINGHAM.—Students' Text-Books, Note-Books, &c.—CORNISH BROTHERS, Booksellers to the College, 37 New Street.

UNIVERSITY OF DUBLIN—SCHOOL OF PHYSIC.

Regius Professor of Physic—John T. Banks, M.D.
Regius Professor of Surgery—William Colles, M.D., Ch.M.
University Professor of Anatomy and Surgery—Alexander Macalister, M.D., F.R.S.
University Professor of Chemistry—J. Emerson Reynolds, M.D., F.R.S.
University Professor of Botany—E. Percival Wright, M.D.
Prof. of Surgery in Trinity College—Edward H. Bennett, M.D., Ch.M.
University Anatomist—Thomas Evelyn Little, M.D.
Prof. of Comparative Anatomy—Alexander Macalister, M.D., F.R.S.
Erasmus Smith's Professor of Natural Philosophy—G. F. Fitzgerald, M.A., F.R.S.
University Lecturer in Operative Surgery—Richard G. Butcher, M.D.
King's Professor of Institutes of Medicine—John M. Purser, M.D.
King's Professor of Practice of Medicine—John M. Finny, M.D.
King's Professor of Materia Medica and Pharmacy—Walter G. Smith, M.D.
King's Professor of Midwifery—John R. Kirkpatrick, M.D.
Professor of Medical Jurisprudence—Robert Travers, M.D.

WINTER SESSION, 1883-84.

THE WINTER SESSION will commence on the 1st October by the opening of the Dissecting Room, and will terminate on the 31st March. Lectures will commence on the 1st November.

LECTURES.

Practical Anatomy—Dr. Little, at 12 o'clock, on Tuesdays, Thursdays, and Saturdays.
Anatomy (Junior Class)—Dr. Macalister, at 1 o'clock, on Tuesdays, Thursdays, and Saturdays.
Anatomy (Senior Class)—Dr. Macalister, at 3 o'clock, on Mondays, Wednesdays, and Fridays.
Chemistry—Dr. Reynolds, at 2 o'clock, on Tuesdays, Thursdays, and at 11 on Saturdays.
Surgery—Dr. Bennett, at 1 o'clock, on Mondays, Wednesdays, and Fridays.
Practice of Medicine—Dr. Finny, at 1 o'clock, on Tuesdays, Thursdays, and Saturdays.
Midwifery—Dr. Kirkpatrick, at 4 o'clock, on Mondays, Wednesdays, and Fridays.
Heat, Electricity, and Magnetism—Mr. Fitzgerald, at 2 o'clock, on the days published at the commencement of each term.
Physiology—Dr. Purser, at 12 o'clock, on Mondays, Wednesdays, and Fridays.

N.B.—The Courses consist of Fifty-six Lectures. Attendance on at least Forty-two Lectures in each Course is required. Christmas Vacation commences on 23rd December, and terminates on 6th January.

MEDICAL SCHOLARSHIPS.

Two Medical Scholars are elected annually by the Board of Trinity College, at an examination held at the end of June, subject to conditions stated in the College Calendar. Each Scholarship is worth £20 per annum, and is tenable for two years.

MATRICULATION.

No Student can be permitted to attend any of the Lectures delivered in the School of Physic, or to attend Dissections, who has not complied with the provisions of the School of Physic Act (Geo. III., ch. 84) as to Matriculation.

The Medical Registrar will attend at 1 o'clock each day to matriculate students.

August 27th, 1883. HENRY W. MACKINTOSH, M.A., Medical Registrar.

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SURGEONS.
LENNOX BROWNE, Esq., F.R.C.S.E., attending every Monday and Thursday, at 2.30 P.M.
LLEWELYN THOMAS, Esq., M.D., attending every Wednesday and Saturday at 2.30 P.M.
FRANCIS HAMILTON, Esq., M.R.C.S., attending every Tuesday at 6.30 P.M., and Thursday at 2.30 P.M.

ASSISTANT SURGEONS.
ARTHUR W. ORWIN, Esq., M.D., attending every Friday at 6.30 P.M., and with Surgeon every Wednesday at 2.30 P.M.
J. DUNDAS GRANT, Esq., M.A., M.D., attending with Surgeon every Monday and Saturday at 2.30 P.M.

REGISTRAR AND PATHOLOGIST.
PERCY JAKINS, Esq., M.R.C.S.

DENTAL SURGEON.
GEORGE WALLIS, Esq., L.D.S., R.C.S.

DEFECTS OF SPEECH.
WILLIAM VAN PRAAGH, Esq.

CHLOROFORMIST.
JAMES MURRAY, Esq., M.D.

The Hospital contains accommodation for twenty In-patients and has a very extensive Out-patient department, which is open to all Medical Practitioners and Students for the purpose of Clinical Demonstration and Instruction during the hours of the Surgeons' visits. Lime Light Illumination is employed. Fee for Three Months' Attendance, Two Guineas; for Six Months, Three Guineas.

A Course of Lectures on the Special Diseases treated at this Hospital will be delivered during the Winter Months by members of the Staff. These Lectures, of which further notice will be given, will be free to qualified Practitioners and advanced Students of Medicine.

RICHARD KERSHAW, Secretary.

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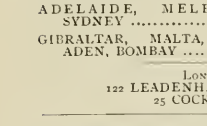

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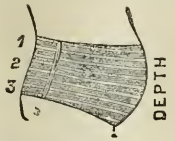

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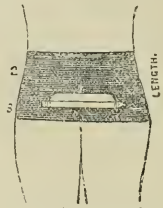

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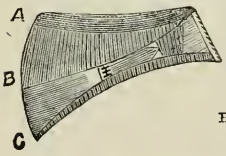

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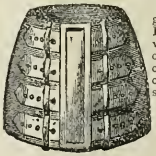

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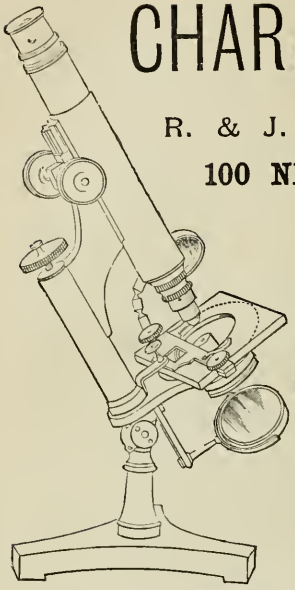

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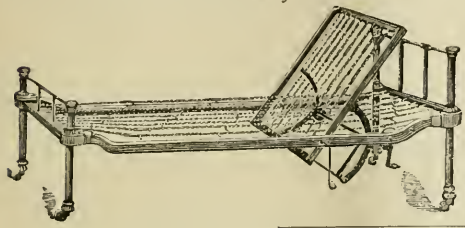

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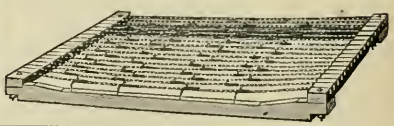

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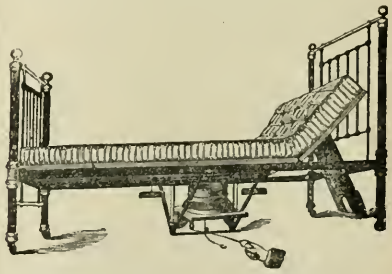

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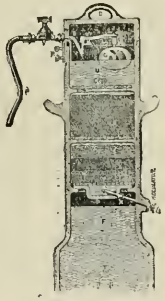

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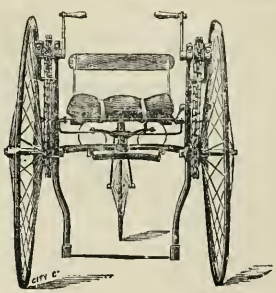

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MEDICAL QUALIFICATIONS.

THE number of examining bodies in the United Kingdom which grant degrees and diplomas capable of registration under the Medical Act of 1858 is nineteen. The registrable qualifications obtainable from them are as follows.

1. *Royal College of Physicians of London:* Diplomas of Licentiate, Member, and Fellow.
2. *Royal College of Surgeons of England:* Diplomas of Member and Fellow.
3. *Apothecaries' Society of London:* Licence.
4. *University of Oxford:* Degrees of Bachelor and Doctor of Medicine.
5. *University of Cambridge:* Degrees of Bachelor and Doctor of Medicine, and Bachelor and Master in Surgery.
6. *University of London:* Degrees of Bachelor of Medicine, Doctor of Medicine, Bachelor of Surgery, and Master in Surgery.
7. *University of Durham:* Licences in Medicine and in Surgery; Degrees of Bachelor of Medicine, Doctor of Medicine, Bachelor of Surgery, and Master in Surgery.
8. *Royal College of Physicians of Edinburgh:* Diplomas of Licentiate, Member, and Fellow.
9. *Royal College of Surgeons of Edinburgh:* Diplomas of Licentiate and Fellow.
10. *Faculty of Physicians and Surgeons of Glasgow:* Diplomas of Licentiate and Fellow.
11. *University of Aberdeen:* Degrees of Bachelor of Medicine, Doctor of Medicine, and Master in Surgery.
12. *University of Edinburgh:* Degrees of Bachelor of Medicine, Doctor of Medicine, and Master in Surgery.
13. *University of Glasgow:* Degrees of Bachelor of Medicine, Doctor of Medicine, and Master in Surgery.
14. *University of St. Andrew's:* Degrees of Bachelor of Medicine, Doctor of Medicine, and Master in Surgery.
15. *King and Queen's College of Physicians in Ireland:* Diplomas of Member, Licentiate, and Fellow, and Licentiate in Midwifery.
16. *Royal College of Surgeons of Ireland:* Diplomas of Licentiate and Fellow; and Diploma in Midwifery.
17. *Apothecaries' Hall of Ireland:* Licence.
18. *University of Dublin:* Licences in Medicine and in Surgery; Degrees of Bachelor and Doctor of Medicine, and Bachelor and Master in Surgery.
19. *Royal University in Ireland:* Degrees of Bachelor of Medicine, Doctor of Medicine, and Master in Surgery; and a Special Diploma in Obstetrics.

In addition, the Royal Colleges of Surgeons and the Faculty of Physicians and Surgeons of Glasgow grant licences in Dental Surgery, which are registrable under the Dentists' Act.

Certificates and diplomas in State Medicine and Public Health (which at present are not registrable) are conferred after examination by the Universities of Cambridge, London, Durham, Edinburgh, Glasgow, and Dublin; by the Royal University of Ireland; by the Royal College of Physicians in Edinburgh; and by the King and Queen's College of Physicians in Ireland.

The following is a general summary of the conditions required on the part of candidates for examination; but, for further details, our readers must consult the regulations issued yearly in the Student's numbers of our contemporaries; or apply to the officers of the respective Universities, Colleges, and Halls.

The regulations of the Examining Bodies are, with very few exceptions, framed in accordance with the Resolutions and Recommendations of the General Medical Council.

Every medical student is required to be registered at the office of the General Medical Council; prior to which he must have passed an examination in subjects of general education. As evidence of this are recognised:—1. The possession of a degree in Arts of an University of the United Kingdom or of the Colonies, or of some University recognised by the Medical Council; 2. A certificate of having passed an examination in subjects of general education conducted by some one or other of the educational bodies, a list of which is given with the 'Recommendations of the General Medical Council.' No person is allowed to be registered as a medical student unless he shall have previously passed a preliminary examination in the following subjects of general education: 1. English Language, including Grammar and Composition; 2. English History; 3. Modern Geography; 4. Latin, including Translation from the Original, and Grammar; 5. Elements of Mathematics, comprising (*a*) Arithmetic, including Vulgar and Decimal Fractions; (*b*) Algebra, including Simple Equations; (*c*) Geometry, including the first two books of Euclid, or the subjects thereof; 6. Elementary Mechanics of Solids and Fluids, comprising the Elements of Statics, Dynamics, and Hydrostatics (this subject may be passed either as preliminary, or before, or at the first professional examination); 7. One of the following optional subjects: (*a*) Greek; (*b*) French; (*c*) German; (*d*) Italian; (*e*) Any other modern language; (*f*) Logic; (*g*) Botany; (*h*) Elementary Chemistry. The preliminary examination having been passed, the student should at once register, as the commencement of the course of professional study is not recognised as dating fifteen days earlier than the date of registration. Forms for registration are supplied by the licensing bodies and at the schools and hospitals.

After passing the preliminary examination, the student may commence his medical education in one of the following ways (according to the regulations of the licensing body with which he intends to become connected): 1. By attendance for one year on the practice of a provincial hospital or other public institution recognised for this purpose; 2. As the pupil, for one year, of a legally qualified surgeon holding sufficient public appointments to afford such opportunities of practical instruction as shall be satisfactory to the authorities; 3. By entering at once at a recognised medical school.

The minimum period of medical study required is forty-five months from the date of registration as a student, of which time at least two years and a half

must be passed at a recognised medical school. For the degrees of the Universities (except that of London and the Royal University in Ireland) the candidate is required to spend a portion of the time of medical study at the University which grants the degree, or at a college in connection therewith.

To obtain a degree, diploma, or licence, two examinations at least in professional subjects must be passed; first in the elementary subjects—Chemistry, Anatomy, Physiology, and Materia Medica; and afterwards in the practical subjects. The final examination, which must not be passed until the completion of the fourth year of study, comprises:—1. Pathology (including Morbid Anatomy); 2. Medicine (including Medical Anatomy, Clinical Medicine, and Therapeutics); 3. Surgery (including Surgical Anatomy and Clinical Surgery); 4. Midwifery; 5. Forensic Medicine.

Special arrangements exist at the Universities of Durham and St. Andrew's for granting degrees to practitioners of medicine above forty years of age.

INSTRUCTION IN THE MEDICAL SCHOOLS.

THE medical schools in London are those of St. Bartholomew's, Charing Cross, St. George's, Guy's, the London, St. Mary's, the Middlesex, St. Thomas's, and Westminster Hospitals; and the Medical Faculties of King's and University Colleges. To these may be added the London School of Medicine for Women, with which the Royal Free Hospital is connected for the purpose of clinical instruction, and Mr. Thomas Cooke's School of Anatomy and Surgery.

In the provinces in England there are the medical departments of Queen's College, Birmingham, Owens College, Manchester, and the Medical College of the University of Durham, at Newcastle-on-Tyne; the Medical School affiliated to University College, Bristol; the Medical Faculty of University College, Liverpool (Royal Infirmary School of Medicine); together with medical schools at Leeds and Sheffield. The Universities of Oxford and Cambridge do not profess to give a complete education, but instruction in many branches is provided for at Cambridge.

In Scotland, the medical schools in which a complete course of professional education is given are those attached to the Universities of Aberdeen, Edinburgh, and Glasgow; the Extra-academical School in Edinburgh; and Anderson's College, the Royal Infirmary School of Medicine, and the Western School of Medicine, in Glasgow.

In Ireland, the medical schools are, the School of Physic in Ireland, the School of the Royal College of Surgeons of Ireland and the Colleges at Belfast, Cork, and Galway. There are also several medical schools in Dublin: viz., the Carmichael College of Medicine and Surgery, the Catholic University, and the Ledwich School of Anatomy, Medicine, and Surgery.

For information regarding these institutions reference must, as we have already said, be made to the published prospectuses. We shall, however, endeavour to classify a part of the information therein contained under certain heads, viz., Clinical Instruction; Practical Surgery; Special Departments; Practical Physiology; Hospital Appointments; Tutorial Instruction; and Scholarships, Exhibitions, and Prizes.

CLINICAL INSTRUCTION.—At all the hospitals connected with medical schools, the physicians and surgeons deliver at stated intervals lectures on the cases under their care, in addition to making comments during their visits to the wards or in the operating theatre. In some instances, special provision is also made by the appointment of one or more of the hospital staff as clinical professors or lecturers; and in several of the hospitals a certain number of beds are specially devoted to the purpose of clinical instruction. At Guy's Hospital forty patients are set aside in the medical wards, and are visited and their cases lectured on by the physicians in the winter and by the assistant-physicians in the summer session: the surgeons also select cases for clinical instruction. A similar arrangement exists at the London Hospital, where two wards are devoted to the express purpose of teaching clinical medicine; the cases being lectured on by the physicians in the winter, and by the physicians or assistant-physicians in the summer. Special clinical professorships in medicine and surgery, in addition to the ordinary clinical lectures given by the physicians and surgeons, exist at the King's and University College Hospitals. In the former, the professor of clinical medicine is Dr. George Johnson; and the professors of clinical surgery are Mr. John Wood and Mr. Lister. In University College Hospital there are two special chairs, known as the 'Holme Professorships' of Clinical Medicine and Surgery. The Holme professor of clinical medicine is Dr. Wilson Fox, who delivers clinical lectures, on Tuesdays and Thursdays, on the significance of the general signs of disease, and on the special modes of examination, diagnosis, and treatment of individual cases. There are also two assistant teachers of clinical medicine, Dr. Gowers and Dr. Barlow, who hold classes for instruction in physical examination, the investigation of diseases of the circulatory, respiratory, and nervous systems, the examination of the urine, &c. The Holme professor of clinical surgery, Mr. Christopher Heath, gives a clinical lecture once a week, and also holds a weekly clinical examination on surgical cases in the operating theatre; these examinations, while open to the whole class, being specially intended for the instruction of the senior students. Mr. Marcus Beck and Mr. A. E. Barker are assistant-professors of clinical surgery. A special course of lectures on clinical surgery has been established in St. Thomas's Hospital, the lecturer being Mr. John Croft. In Cambridge, clinical instruction in medicine and surgery is given at Addenbrooke's Hospital throughout the year. At Leeds, clinical classes meet at appointed hours to receive instruction in the wards from the physicians. In the Liverpool Royal Infirmary, Dr. Glynn (one of the physicians) gives, once a week during the winter, practical instruction in clinical medicine and the methods of physical diagnosis. Two clinical tutors, in the Medical and Surgical Wards, have also been appointed. In the Owens College, Manchester, there is a special professorship of clinical medicine, held by Dr. William Roberts. A medical and a surgical clinical lecture are given every week in the Manchester Royal Infirmary. Medical and Surgical Ward Classes are formed by the members of the Infirmary staff at each of the trimestral periods, commencing with October, January, and May. In the Infirmaries of Aberdeen, Edinburgh, and Glasgow, clinical lectures on medicine, surgery, and midwifery are delivered by the medical staff of each institution. The Universities

of Edinburgh and Glasgow have special professors of Clinical Medicine and Surgery. In the medical schools of Ireland, clinical courses are given through the session.

In connection with the subject of Clinical Instruction, reference must be made to means provided at several hospitals for the special purpose of training the students in the observation of cases. At the Charing Cross Hospital, a course of practical medicine is given by Dr. M. Lubbock. It includes the methods of examining organs, the examination of morbid products, case-taking, the management of the sick-room, &c. At St. George's Hospital, a similar course is given by Dr. Whipham. In Guy's Hospital, the ward clerks (of whom 150 or more are appointed during the year) are assisted in the examination of cases and the preparation of reports by the medical and surgical registrars, who also instruct them in physical diagnosis and in chemical and microscopical investigation. Similarly, at the London Hospital, the clinical clerks and dressers are assisted by the house-physicians and house-surgeons. At several of the medical schools there are medical tutors, who instruct the students in the physical examination and systematic description of cases. The provision made at University College Hospital has been referred to above. Classes for medical demonstration are held in the Manchester Royal Infirmary twice weekly during the summer by two of the medical officers; in which classes instruction is given in anatomy as applied to medicine, in physical and chemical examination, &c. In the University of Edinburgh, a class for instruction in clinical medicine is held in the wards of the Royal Infirmary by the clinical tutor.

Practical Surgery.—At most of the schools, special provision is made for instruction in this important branch of medical education. The courses embrace such subjects as the application of anatomy to surgery on the living person or the dead body; the methods of proceeding, and the manipulations necessary, in order to detect the effects of diseases and accidents; the performance of operations on the dead body; the use of surgical apparatus; the examination of diseased structures, as illustrated by preparations and recent specimens. The course of practical instruction is generally distinct from that of systematic surgery, and is in several instances given in the summer session. In the Liverpool School of Medicine, the lectures on Systematic Surgery are given thrice weekly, and there is a concurrent course of Practical Surgery twice weekly; besides which, a course of Operative Surgery is given in the summer.

Special Departments.—Due provision is made for both theoretical and practical instruction in *Midwifery and Diseases of Women*, so as to enable students to meet the requirements of the examining bodies.

Ophthalmic Surgery is taught by lectures and observation of cases at all the London schools; each hospital receiving ophthalmic patients except the Charing Cross, the pupils of which are admitted to the practice of the Royal Westminster Ophthalmic Hospital. As far as can be gathered from the prospectuses, the material available for the practical teaching of this subject (as far as regards in-patients) is as follows: St. Bartholomew's Hospital, 26 beds; Charing Cross (Royal Westminster Ophthalmic Hospital), 50 beds; Guy's Hospital, 50 beds (also about 3,000 out-patients, and an average of more than 1,800 operations); London Hospital, 12 beds. The other hospitals have beds for ophthalmic cases, but the number is not stated. Provision for teaching ophthalmic surgery, theoretical and practical, is made in the provincial schools. In the Universities of Aberdeen and Glasgow, instruction in ophthalmic surgery is given; and the students are admitted to see the practice of ophthalmic institutions in those cities. In the Extra-academical School of Edinburgh, and in the Schools of Medicine in Glasgow, courses of lectures on the subject are given. In Ireland, provision is made for the teaching of ophthalmic surgery in most of the medical schools.

Aural Surgery is taught as a special branch at all the London medical schools, and at the Leeds School of Medicine and the Bristol, Manchester, and Newcastle Royal Infirmaries among the provincial schools; also in the Extra-academical School in Edinburgh, and in Anderson's College and the Royal Infirmary School of Medicine in Glasgow.

Diseases of the Throat.—Special instruction in the diagnosis and treatment of diseases of the throat and larynx, and the use of the laryngoscope, is given at St. Bartholomew's Hospital by Mr. Butlin; at King's College Hospital by Mr. Royes Bell; at the London Hospital by Dr. Morell Mackenzie, who delivers a course of lectures on the subject; at the Middlesex Hospital by Mr. Hensman (with Diseases of the Ear); at St. Thomas's Hospital by Dr. Semon; at University College Hospital by Dr. Poore; at the Westminster Hospital by Dr. De Havilland Hall; at the Bristol Royal Infirmary by Mr. Harsant; at the Manchester Royal Infirmary by Dr. H. Simpson; at the Newcastle-on-Tyne Infirmary by Dr. Hume (with Diseases of the Ear); in the Edinburgh Royal Infirmary by Dr. McBride (with Diseases of the Ear); and in the Glasgow Royal Infirmary by Dr. E. Watson.

Diseases of the Skin.—For the teaching of this important department of medicine, special provision is made in all the London Hospitals, in the Bristol General Hospital, in the Manchester Royal Infirmary, and in the Newcastle-on-Tyne Infirmary. Demonstrations of cases, and clinical lectures, are given at stated intervals, generally once a week. In University College Hospital, Dr. Radcliffe Crocker, the physician in this department, gives clinical lectures on diseases of the skin once a fortnight. A course of lectures is given in the Edinburgh Extra-academical School. In Dublin, a course of instruction on diseases of the skin is given at the Adelaide Hospital.

Orthopædic Surgery is taught at St. Bartholomew's Hospital by Mr. Walsham; and at the Westminster Hospital by Mr. Richard Davy. Mr. Hardie gives instruction on this subject at the Manchester Royal Infirmary.

Mental Diseases.—Lectures on Psychological Medicine are delivered as a separate course in most of the London schools. Special arrangements for clinical instruction are made in several instances; thus the students of St. Bartholomew's Hospital have access to a large public asylum; those of Guy's Hospital are admitted to Bethlem Hospital, and those of the London Hospital to Bethnal House. Two students of the London Schools, qualified to practise, are appointed for six months as resident clinical assistants in Bethlem Hospital. At Cambridge, clinical instruction is given at the county asylum at Fulbourn. At the Leeds School of Medicine,

the students attend the West Riding Lunatic Asylum at Wakefield, where Dr. Major, the Medical Director, gives clinical lectures in addition to a course of systematic lectures at the school. In Manchester, a course of clinical lectures on mental diseases is given to senior students of Owens College by Mr. G. W. Mould, at the Asylum in Cheadle. At the Newcastle-on-Tyne College, instruction in psychological medicine is given by Mr. Wickham, medical superintendent of Coxlodge Asylum. In the University of Edinburgh, Dr. Clouston gives a course of Medical Psychology and Mental Diseases, with practical instruction at the Morningside Asylum. In the Extra-academical School, a similar course is delivered by Dr. Batty Tuke. In the Glasgow Royal Infirmary School of Medicine, a course of lectures on Mental Diseases is given by Dr. A. Robertson, in the City Parochial Asylum. In Dublin, special courses of lectures on mental diseases are given in the Richmond, Whitworth, and Hardwicke Hospitals, adjoining which is a large asylum containing over 1,000 patients. The lectures on psychological medicine are mostly delivered during the summer session.

Public Health.—Special courses of lectures on this subject are given at St. Bartholomew's, Charing Cross, Guy's, the Middlesex and St. Thomas's Hospitals, and at King's and University Colleges. At St. George's Hospital it is included in the course of Medicine; and at the London, St. Mary's, and Westminster Hospitals, in that on Forensic Medicine. In University College, besides the lectures, instruction in the chemical and microscopic examination of air, water, and food, is given in the hygienic laboratory. In several of the provincial schools, the subject is included in the lectures on Forensic Medicine. In Owens College, Manchester, lectures on hygiene are delivered by Dr. Ransome; in the Bristol Medical School by Mr. Davies; in the Newcastle College of Medicine by Dr. Armstrong; and in the Sheffield Medical School by Dr. Drew. In Scotland, also, the instruction in Public Health is given in connection with the lectures on Medical Jurisprudence. In Dublin there is a professorship of Hygiene in the school of the Royal College of Surgeons. In London, instruction in Sanitary Science is also given in the Parkes Museum of Hygiene, which has been removed from University College to Margaret Street.

PRACTICAL PHYSIOLOGY AND HISTOLOGY.—This subject is taught in all the schools: but more elaborate provision is made in some cases than in others.

At *St. Bartholomew's Hospital*, the course is conducted by a demonstrator and two assistant demonstrators under the superintendence of the lecturers on Physiology and Chemistry. Dr. Klein gives a course of lectures on General Histology, with demonstrations, which form part of the course on General Anatomy and Physiology.

At *Guy's Hospital*, Mr. Golding-Bird gives a course of Histological demonstrations of the elementary tissues and the chief organs of the body, with their behaviour and re-agents, as studied with the microscope. The course includes about thirty-five demonstrations, and is gone through twice in the winter session. A laboratory class in Practical Physiology, intended for advanced students, is held by Dr. Pye-Smith in the summer.

At *University College*, an elaborate course of instruction in Practical Physiology is given by Mr. Schäfer (Jodrell Professor of Physiology), and assistants. For the details, we must refer our readers to the prospectus of the Medical Faculty of the College. Practical instruction in Zoology and Comparative Anatomy is also given by the professor, Mr. Ray Lankester, and his assistants.

At the *Westminster Hospital*, a course of lectures and demonstrations on Histology and Practical Physiology will be given by Dr. Heneage Gibbes. The course will consist of three parts:—Histology of the Simple Normal Tissues, delivered during May, June, and July; 2. Lectures and demonstrations on the Histology of the Normal Organs and Viscera, delivered in October, November, and December; 3. Physiological Chemistry.

In *Owens College, Manchester*, a very complete course of practical Physiology is conducted during the year by Dr. Arthur Gamgee, the Brackenbury Professor of Physiology. The class meets for systematic work in Practical Histology and Physiological Chemistry, and for demonstrations in Experimental Physiology. The Physiological Laboratory is open daily during the winter and summer sessions.

Practical Physiology is taught in the University of Edinburgh, by Professor Rutherford; in that of Aberdeen, by Professor Stirling; and in that of Glasgow, by Professor Fleming. Courses are also given in the Edinburgh Extra-academical School; and in the Royal Infirmary School of Medicine, in Anderson's College, and in the Western Medical School, in Glasgow.

HOSPITAL APPOINTMENTS.—Numerous appointments at the hospitals are open to the diligent student, without payment (except in the few cases hereinafter noticed) of any fee. For the resident appointments, a qualification to practise is required; and, in some instances, a salary is paid in addition to the provision of rooms and board.

At *St. Bartholomew's Hospital*, four house-physicians and ten house-surgeons are appointed annually. A resident midwifery assistant is appointed every six months; an ophthalmic house-surgeon is also appointed for six months, and may be re-elected. A senior and a junior assistant-chloroformist are appointed annually. Each of these officers is provided with rooms by the hospital authorities. The senior assistant-chloroformist receives £50 a year; each of the others has an annual salary of £25. Clinical clerks to the medical in-patients, and to the physician-accoucheur, also clerks and dressers for the out-patient and special departments, are chosen from among the students. Forty dressers for the surgical in-patients and the surgical casualty department are selected each year; and other in-patient dresserships may be obtained on payment of £10 10*s.* for three months, or £16 16*s.* for six months.

At *Charing Cross Hospital*, a medical and a surgical registrar are appointed, each with a salary of £40 a year. Two house-physicians, two house-surgeons, and a resident obstetric officer are appointed every six months, after examination. The clinical clerks—three to each physician, and two to each assistant-physician, and the dressers—three to each surgeon and assistant-surgeon, and also two clinical clerks to the physician-accoucheur, are appointed for periods of four months. Each student must act as in-patient clerk and dresser. Pathological assistants, who assist at the *post mortem* examinations, are appointed each month for four months.

At *St. George's Hospital*, house-physicians and house-surgeons are appointed half-yearly from among the perpetual pupils. The appointments are held for twelve months, with board and residence in the hospital, free of expense. Each pays a deposit of 50 guineas, which is returned if the duties of his office have been satisfactorily performed. A curator of the Pathological Museum, and a medical and a surgical registrar, each with a salary of £50; an ophthalmic registrar and a microscopic pathologist, each with a salary of £25; and an obstetric assistant, with board, residence, and a salary of £100, are appointed annually. An assistant-house-physician, an assistant house-surgeon, an ophthalmic assistant, two assistant medical registrars, and an assistant surgical registrar, are appointed every six months. Clinical clerks and dressers are also appointed.

At *Guy's Hospital*, there are appointed during the year 6 senior and 6 junior house-physicians, 6 senior and 6 junior house-surgeons, 12 senior and 12 junior obstetric residents, 24 surgeons' dressers, 18 clinical assistants, 24 dressers in the eye wards, 24 *post mortem* clerks, 24 obstetric out-patient clerks, 36 assistant physicians' clerks, 12 dental surgeons' dressers, 12 aural surgeons' dressers, 64 medical clinical clerks, 72 or more assistant-surgeons' dressers and dressers in the surgery, 12 obstetric ward clerks, 80 surgical clinical clerks, 32 assistant-surgeons' clerks, 60 extern obstetric assistants, and clerks in the room for applying electricity. All students have opportunities of becoming clinical ward clerks to the physicians and surgeons, as well as dressers to the assistant-surgeons, and dressers in the surgery; and the diligence with which they perform the duties of these offices is an important test of their fitness for the higher posts.

At *King's College Hospital*, a physician's assistant, house-surgeons, a physician-accoucheur's assistant, clinical clerks, and dressers, are chosen by examination from matriculated students of the College who are pupils at the hospital.

At the *London Hospital*, every student is expected to act as clinical clerk to the medical out-patients for six weeks in his second year, and to dress for three months in the surgical out-patient department; also to act as *post mortem* clerk for three months. The following appointments are also made: five house-physicians (qualified for registration) every six months; clinical clerks (open to all full pupils) every three months; a resident accoucheur (qualified) every six months; clinical obstetric clerks every three months in the in-patient, and every six weeks in the out-patient department; five house-surgeons, for six months (each being provided with board and residence); surgical dressers every three months; three clinical assistants (each with a salary at the rate of £80 *per annum*); a medical and a surgical registrar (each with £100 *per annum*); a dental assistant, ophthalmic and aural dressers, and *post mortem* clerks.

At *St. Mary's Hospital*, four resident medical officers are appointed for twelve months, and a resident obstetric officer for six months. They all reside in the hospital, free of expense. All students are required to perform the duties of clinical clerk and dresser for eight months after passing the primary examination, after having acted as dressers in the casualty and electrical departments.

At the *Middlesex Hospital*, two house-surgeons, six resident physicians' assistants, and a resident obstetric physician's assistant, are appointed by competitive examination. They pay, on appointment, fees varying from ten to twenty guineas, according to circumstances. The appointments of clinical clerks and dressers are so arranged that every student may, at some period of his attendance on hospital practice, hold both a clerkship and a dressership. Obstetric physician's clerks and ophthalmic dressers are appointed.

At *St. Thomas's Hospital*, two resident and one non-resident house-physician, an assistant house-physician, two house-surgeons, an assistant house-surgeon, and a resident accoucheur, are selected every three months from gentlemen who have obtained professional diplomas. An ophthalmic clinical assistant is also appointed with a salary of £50 per annum for six months. Clinical clerks and dressers to in-patients are selected from pupils, to the number in all of at least 100 each year; and clinical clerks and dressers to out-patients to the number of 80 or 100 each year. Two registrars, at an annual salary of £100 each, are appointed each year. There are also numerous minor appointments of anatomical assistants, prosectors, obstetric clerk, &c., open to all students.

In *University College Hospital*, eight house-physicians, six house-surgeons, and four obstetric assistants, are selected annually by examination from among the senior students. They reside in the hospital, paying for their board. Out-patient physicians, and surgeons' assistants, clinical clerks, surgeons' dressers, and ophthalmic surgeons' assistants, are selected from among the pupils who are also students of the College.

At the *Westminster Hospital*, a curator of the museum, and pathologist, with a salary of £52 10*s.*, and a medical and a surgical registrar, each with a salary of £40, are appointed annually. Two house-physicians, a house-surgeon, and a resident obstetric assistant, are appointed by examination for six months; they are provided with board and rooms in the hospital, and the senior house-physician, as chloroformist, receives an additional honorarium of £21. An assistant house-surgeon is appointed by examination. Clinical assistants to the assistant-physicians and assistant-surgeons, and to the officers in charge of special departments are appointed from among the most advanced students of the fourth year. Every student must act as out-patient dresser during three months in his first year, and afterwards hold the office of in-patient dresser and clinical clerk during a period of three months each.

In the *Birmingham General Hospital*, a resident medical and a resident surgical assistant, and two resident dressers, are appointed, each for six months.

At the *Queen's Hospital, Birmingham*, a resident obstetric assistant is appointed every six months and a resident dresser every three months.

At the *Bristol Royal Infirmary*, students are appointed to clinical clerkships in their third and fourth years. Surgeons' dressers are appointed after the first year of study, and, when sufficiently qualified, reside in the hospital in weekly rotation, and act under the supervision of the house-surgeon. The dressers and clinical clerks pay fees in addition to those for hospital practice; the former £5 5*s.* for each six months, the latter £5 5*s.* for six months, or £8 8*s.* for a year. Obstetric clerks pay £3 3*s.* for three months. A pathological clerk is appointed every four months.

At the *Bristol General Hospital*, clinical clerks,

dressers, and obstetric clerks are appointed. The clinical clerks and dressers pay each an extra fee of £5 5s. for six months; and the obstetric clerks £3 3s. for three months. The dressers reside in the hospital in rotation, free of expense.

In the *Leeds General Infirmary*, all students must hold the office of clinical clerk and dresser. A house-physician and house-surgeon are elected from time to time. There are four resident assistants; two are elected every six months, and hold office for one year.

At the *Liverpool Royal Infirmary*, two house-physicians and three house-surgeons are selected (by competitive examination if necessary) from pupils of the school who have obtained a legal qualification to practise; they hold office for six months. Three clinical clerks are appointed to each physician, and three or more dressers to each surgeon, and two clerks to the wards for special diseases of women; they hold office for three months. *Post mortem* clerks are appointed for periods of six weeks. This appointment is required to be held by every student.

At the *Manchester Royal Infirmary*, a registrar, a pathological registrar, and two assistant medical officers, are appointed annually, each with a salary of £100. The following resident medical officers are appointed: at Infirmary, for two years, salary £250 *per annum*; at Cheadle Lunatic Asylum, for one year, £150 *per annum*; at Monsall Fever Hospital, for one year, £200 *per annum*. A resident surgical officer is appointed annually, and receives £150. Eight house-surgeons, and four house-physicians are appointed in each year. An assistant to the resident medical officer at Monsall, and one at Cheadle, are appointed every six months. House-surgeons must possess registrable qualifications. Two or more clinical clerks are attached to each physician and assistant-physician, and two or more dressers to each surgeon and assistant-surgeon: two clerks are also appointed to the pathological registrar and to each of the assistant medical officers. They hold these for three months. Accident-room dressers are also appointed monthly, for two months.

In the *Newcastle-on-Tyne Infirmary*, four times in the year, two resident medical assistants, two resident surgical assistants, three non-resident clinical clerks, and sixteen dressers, are appointed for three months. Assistants in the pathological department and to the dental surgeon are also appointed.

In the *Edinburgh Royal Infirmary*, resident physicians and resident surgeons are appointed for six months. Clinical clerks are also appointed; and each surgeon appoints several dressers for six months. There are also assistants in the pathological department.

In the *Glasgow Royal Infirmary*, five physicians' and five surgeons' assistants are boarded and lodged in the Hospital at the rate of £25 *per annum*. The appointments can be held for twelve months, six in the medical and six in the surgical wards. These appointments are open to students who have passed all their examinations except the last, or to qualified gentlemen. There are also numerous clerkships and dresserships.

TUTORIAL INSTRUCTION.—In addition to the ordinary courses of lectures and hospital practice, and practical instruction, many of the medical schools have an officer whose special duty it is to direct the pupils in their studies, and to hold classes for the guidance of those who are about to present themselves for examination before the licensing boards.

SCHOLARSHIPS, EXHIBITIONS, AND PRIZES.—In addition to the rewards for diligence in professional study, many of the medical schools offer yearly one or more scholarships, usually in general literature, and in some instances in science. The competition is open to gentlemen about to commence their hospital studies; and the successful candidate is expected to enter as a pupil of the school in which the examination has been passed. In the examination in general literature, the subjects are usually those of preliminary education as defined by the General Medical Council, or of the Matriculation Examination of the University of London. In the Science scholarships, the usual subjects are Chemistry, Botany, and Zoology. The yearly value of the scholarships and exhibitions varies from £100 to £10.

There are also many scholarships and exhibitions, varying in value from £100 to £20, open to students during their period of professional study, or (as at St. George's Hospital) within a limited time after they have passed their final examinations for licences to practise. These exhibitions are in some cases (as at St. Bartholomew's and the London Hospitals) awarded after examination in subjects of preliminary education; but in most of the schools they are given after examination in groups of subjects of professional education, elementary or practical.

Special rewards are also offered in many of the schools for evidence of proficiency in clinical observation.

For further information respecting the scholarships and exhibitions, and regarding the class prizes, as well as for many details which we are obliged to omit, our readers must consult the prospectuses of the schools and our advertising columns.

FRANCE.

GRADUATION IN MEDICINE.

THE Degree of Doctor in Medicine in the University of France is conferred by the Faculties of Paris, Montpellier, Nancy, Bordeaux, Lille, and Lyons, under regulations laid down by the Government.

1. The studies necessary for obtaining the degree last four years; during the first three years they may be carried on either in the Faculties, in the *Ecoles de plein exercice*, or in the preparatory schools of medicine and pharmacy. The studies of the fourth year can only be made in a Faculty or in an *Ecole de plein exercice*.

2. Candidates must produce, when they take the first inscription, the diploma of Bachelor of Sciences, limited as regards the mathematical part. They must undergo five examinations and defend a thesis. The second, third, and fifth examinations are each divided into two parts.

3. The five examinations are as follows. *First Examination:* Physics, chemistry, medical natural history. *Second Examination:* First part, anatomy and histology; second part, physiology. *Third Examination:* First part, external pathology (surgery),

midwifery, operative surgery; second part, internal pathology (medicine), general pathology. *Fourth Examination:* Hygiene, legal medicine, therapeutics, materia medica, and pharmacology. *Fifth Examination:* First part, clinical surgery and obstetrics; second part, clinical medicine, practical demonstrations in pathological anatomy; and a thesis on a subject chosen by the candidate.

4. The first examination takes place after the fourth inscription and before the fifth; the first part of the second examination, after the tenth inscription, and before the twelfth; and the second part after the twelfth inscription and before the fourteenth. The third examination cannot be passed until the end of the sixth *trimestre* of study. Any candidate who does not pass the first examination in November, at the latest, will be put back to the end of the scholastic year, and will not be permitted to take out any inscription during the course of that year.

5. Candidates for the doctorate, pupils of *écoles de plein exercice* or of the preparatory schools, are examined by the Faculties at the periods fixed in the preceding article. They may, however, defer the first examination until after the twelfth inscription. In that case they must pass the second examination before the thirteenth inscription, and, from the commencement of the second year of study, are subjected to interrogations at the end of each six months, the results of which are transmitted to the Faculties, to be taken into account in the examinations for the doctorate.

6. The inscriptions for *officier de santé* cannot be converted into inscriptions for the doctorate, in the case of pupils actually studying; but this conversion may be permitted in the case of *officiers de santé* who have practised medicine for at least two years.

7. Practical work in the laboratory, dissection, and residence near the hospitals, are obligatory. Each annual period of laboratory work and dissection comprises a six months' course, or *semestre*. Residence near the hospitals must not continue less than two years.

8. The fees to be paid by candidates for the degree of Doctor in Medicine are fixed as follows.

Sixteen inscriptions at 32 *francs* 50 *centimes* each	520	*francs.*
Eight examinations at 30 *francs*	240	,,
Eight certificates of proficiency at 25 *francs*	200	,,
Expenses of materials for practical study, first year, 60 *francs;* second and third years, each 40 *francs;* fourth year, 20 *francs*	160	,,
Thesis	100	,,
Certificate of proficiency	40	,,
Diploma	100	,,
Total	1,360	,,

9. Every candidate, who, without an excuse admitted by the jury, does not answer when his name is called, on the day of which notice has been given to him, is set back for three months, and forfeits the fees which he has paid.

10. The fees paid by the pupils of the Faculties go to the public treasury. The fees paid for inscriptions and for practical work by the pupils of the *écoles de plein exercice* and the preparatory schools go to the municipal treasuries.

A foreigner holding medical qualifications to practise medicine, if desirous of obtaining the degree of the University of France, must show to the Minister of Public Instruction his diploma, and the certificates of the course of study which he has undergone in his own University or Medical School. The Minister, if satisfied, will authorise the candidate to present himself for the five final examinations. These are conducted in the French language. The fees are as follows: each examination 90 *francs* = 450 *francs;* thesis, 240 *francs;* fifteen subscriptions, 520 *francs;* three *examens de fin d'année*, 90 *francs;* diplomas of *bachelier ès lettres et ès sciences*, 100 *francs;* in all, 1,400 *francs*. The candidate has to pay all the fees, although exempted from the necessity of passing the preliminary examinations, and those for the *bachelier ès lettres et ès sciences.*

MEDICAL EDUCATION.

Medical Education in France is under the control of the State, and is given in the Faculties of Medicine and Pharmacy, the Écoles de Plein Exercice, and the Preparatory Schools of Medicine and Pharmacy.

The Faculties are six in number: five—those of Paris, Montpellier, Nancy, Lille, and Lyons—are schools of Medicine; the other, at Bordeaux, is a mixed Faculty of Medicine and Pharmacy. They confer, besides the same diplomas and certificates as the other schools, the diplomas of doctor in medicine and *pharmacien* and midwife of the first class.

There are two *écoles de plein exercice*—viz., at Nantes and at Marseilles. They are entitled to give the same certificates as the preparatory schools, but candidates for the doctorate may take out sixteen inscriptions in them.

The Preparatory Schools are entitled to give diplomas or certificates of *Officier de Santé* and *Pharmacien*, herbalist, or midwife, of the second class. Candidates for the doctorate can study in them three years, and take out twelve inscriptions. There are preparatory schools at Algiers, Amiens, Angers, Arras, Besançon, Caen, Clermont Ferrand, Dijon, Grenoble, Limoges, Poitiers, Reims, Rennes, Rouen, Toulouse, and Tours.

Faculty of Medicine in Paris.

The School of Medicine in Paris is open to all who wish to attend the courses and take degrees. Great facilities are afforded to British and foreign students for the prosecution of their studies, all lectures being given gratuitously, and no payment being required for hospital attendance. For dissections, however, a payment of 30 *francs* or more is expected from each student.

The medical sessions begin for winter on October 15th, and for summer on April 15th of each year.

The instruction in the Faculty of Medicine in Paris is given by the following professors: M. Sappey, Anatomy; M. Robin, Histology; M. Béclard and M. Richet (*agrégé*), Physiology; M. Wurtz and M. Henninger (*agrégé*), Medical Chemistry; M. Baillon, Natural History; M. Gavarret, Medical Physics; M. Regnault, Pharmacology; M. Jaccoud, M. Peter, and M. Dieulafoy, Internal Pathology or Medicine; M. Trélat and M. Berger (*agrégé*), External Pathology or Surgery; M. Guyon and M. Duplay, Surgical Pathology; M. Le Fort, Practical Surgery; M. Hayem, Materia Medica and Therapeutics; M. Cornil, Pathological Anatomy; M. Pajot and M. Pinard (*agrégé*), Midwifery; M.

Bouchardat, Hygiene; M. Brouardel, Forensic Medicine; M. Bouchard, General Pathology and Therapeutics; M. Vulpian, Comparative and Experimental Pathology; MM. G. Sée, Lasègue, Hardy, Potain, Clinical Medicine; MM. Gosselin, Richet, Verneuil, Trélat, Clinical Surgery; M. Depaul, Clinical Midwifery; M. Charcot, Diseases of the Nervous System; M. Panas, Clinical Ophthalmology; M. Laboulbène, History of Medicine; M. Fournier, Diseases of the Skin and Venereal Diseases.

Auxiliary courses are given by *agrégé* professors as follows: M. Hanriot, Biological Chemistry; M. Bocquillon, Medical Zoology; M. Rendu, Medicine; M. Terrillon, Surgery; M. Charpentier, Obstetrics; M. Cadiat, Physiology; M. Joffroy, Pathological Anatomy.

Practical instruction is given under the guidance of the following *chefs des travaux*: M. Farabeuf, Anatomy; M. Faguet, Natural History; M. A. Gautier, Medical Chemistry; M. Gay, Medical Physics; M. Gombault, Pathological Anatomy, M. Cadiat, Histology; M. Laborde, Physiology.

The Faculty of Medicine possesses laboratories for Anatomy (Professor Sappey), Operative Surgery (Professor Le Fort), Physics (Professor Gavarret), Chemistry (Professor Wurtz), Biological Chemistry (Professor Wurtz), Practical Forensic Medicine (Professor Brouardel), Botany (Professor Baillon), and Teratology (Director, M. Dareste), Normal Histology (Director, M. Ch. Robin), Physiology (Professor Béclard), Experimental and Comparative Pathology (Professor Vulpian), Therapeutics (Professor Hayem), Pharmacology (Professor Regnault). There are also laboratories for practical instruction at several of the hospitals.

The course of study to be followed in each winter session is as follows. *First year:* Medical Chemistry, Physics, and Natural History—theoretical and practical. *Second year:* Anatomy, Histology, Physiology, Medicine, and Surgery, with practical instruction in Anatomy, Histology, and Physiology. *Third year:* Anatomy, Histology, Pathological Anatomy, Physiology, Medicine, Surgery, Operative Surgery, Materia Medica and Therapeutics, Pharmacology, and Medical and Surgical hospital practice; practical work in hospital, Anatomy, Histology, and Physiology. *Fourth year:* Medicine, Surgery, Pathological Anatomy, general Pathology, and Therapeutics, Experimental Pathology, Practical Surgery, Hygiene, Forensic Medicine, History of Medicine and Surgery, and Medical, Surgical, Obstetric, and special hospital practice, with Practical instruction in Hospital work, Operative Surgery, and Pathological Anatomy.

Attached to the Faculty of Medicine are the Botanical Gardens and Museum of Natural History; the Orfila Museum of Anatomy and Zoology, at the École de Médecine; the Depuytren Museum of Pathological Anatomy, in the Ecole Pratique; and the Library.

The prizes of the Faculty of Medicine are the following. The Corvisart prize, a gold medal of the value of 400 *francs* (£16) is offered for competition to all pupils of the Faculty who have also entered to one of the internal clinics. The subject is some question in medicine, the answer to which must be derived exclusively from the facts observed in hospital practice. The Montyon prize, consisting of 700 *francs* (£28), is awarded to the author of the best essay on the prevalent diseases of the preceding year, their characters, symptoms, and treatment. The Barbier prize of 2,000 *francs* (£80) is offered annually to the inventor of an operation, or of instruments, bandages, &c., of general utility, and superior to anything of the kind that has been already in use. The Chateauvillard prize, also of 2,000 *francs*, is awarded yearly to the author of the best work on the medical sciences, printed between January 1 and December 31 of the preceding year. The works sent for competition must be in French. Graduation theses are admitted. An annual sum of 1,000 *francs* (£40) is awarded, under the will of the late Baron de Trémont, to a meritorious but poor student. An annual revenue of 3,000 *francs*, bequeathed by Madame de Barkow, is applied to a similar purpose in the superior educational establishments in Paris. The Lacaze prize of 10,000 *francs* (£400) is offered biennially for the best essay on phthisis or on typhoid fever—the subjects being taken alternately. After the examination of the theses, the Faculty names to the Minister of Public Instruction the candidates worthy of special distinction, in the form of silver medals, bronze medals, and honourable mention. Bursaries of the value of 1,200 francs are awarded after competition. Each bursary is tenable for one year; and the holder, if desirous of its renewal, must again compete. Candidates must be natives of France, at least eighteen years of age.

The College of France.

In this institution, the following courses of instruction on sciences allied to medicine are given, viz., Experimental Medicine, by Dr. Brown-Séquard; General Anatomy, by M. Ranvier; Natural History of Organised Bodies, by M. Marey; Comparative Embryogeny, by M. Balbiani; Organic Chemistry, by M. Berthelot; Mineral Chemistry, by M. Schutzenberger; Physics, by M. Mascart; Natural History of Inorganic Bodies, by M. Fouqué; General Physics, by M. Bertrand. The Histological Laboratory is under the direction of M. Ranvier and M. Malassez, and is specially intended for the use of persons desirous of making original researches. The Physiological Laboratory, directed by Professor Marey and M. François-Franck, is open to persons who enter their names for the purpose with the secretary of the Faculty of Sciences, and who have a sufficient knowledge of physiology to enable them to undertake experimental research. The researches may have reference to any department of physiology; but special attention is paid in this laboratory to the phenomena of circulation and motion, and their registration by suitable apparatus.

Free Medical Instruction.

In addition to the professors in the Faculty of Medicine, there are a number of lecturers whose instruction is recognised.

The Hospitals of Paris.

Pupils of the Faculty of Medicine in Paris attend, without payment, the practice of any of the hospitals which they may select. The visits of the physicians and surgeons are generally made at an early hour—8 or 9 A.M. The following is a list of these institutions:

Hôtel Dieu, Parvis Nôtre Dame.—530 beds. *Physicians:* Drs. G. Sée, Hérard, Moutard-Martin, Empis, Gallard, and Vulpian. *Surgeons:* MM. Richet, Le Fort, and Panas. The hospital possesses laboratories for histology, chemistry, and physiology; also a library for the use of the *internes*.

Award of Merit—International Medical Exhibition, London, 1881.

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A Concentrated Extract of Malted Wheat, Oats, & Barley.

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The word **MALTINE** is our Registered Trade Mark, and applies **solely** to our preparations.

In its preparation the temperature employed does not exceed 150 deg. Fahr., thereby retaining all the nutritive and digestive agents unimpaired. The German process, under which Extracts of Malt are made from Barley alone, directs that the mash be heated to 212 deg. Fahr., thereby coagulating the Albuminoids, and almost wholly destroying the starch digestive principle, Diastase.

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MALTINE Plain
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MALTINE with Cod-Liver Oil and Pancreatine
MALTINE with Cod-liver Oil and Iodides.
MALTINE with Cod-liver Oil and Phosphorus
MALTINE with Cod-Liver Oil and Phosphates
MALTINE with Iodides
MALTINE with Hypophosphites
MALTINE with Phosphorus Comp.
MALTINE with Peptones
MALTINE with Pepsine and Pancreatine
MALTINE with Phosphates
MALTINE with Phosphates, Iron, and Quinia
MALTINE with Phos., Iron, Quinia, & Strychnia
MALTINE Ferrated
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Why does Maltine (malted wheat, oats, and barley) contain much larger proportions of Constructive and Nutritive properties than the best Extracts prepared from Barley alone?

Because Chemical Analysis has shown that Wheat and Oats contain much larger proportions of Albuminoids and Nitrogenous elements than Barley. Gluten, which is found very abundantly in Wheat, is the most nutritious element obtained from the Cereals, and the only vegetable substance that will support life indefinitely. Wheat contains from 15 to 35 per cent. of Gluten. Its proportion in other grains is insignificant. (*See Flint's Physiology of Man, p.* 52.) The Nitrogenous principles of Wheat and Oats, *when malted*, are more soluble than they are in Barley, and it is for this reason that dairymen will pay fivepence to sevenpence per bushel for the refuse of grains from malted Barley, whereas they will not accept the refuse grains from Malted Wheat and Oats as a gift.

'Wheat and Oats stand first among our list of Cereals in combining all the elements in proportions necessary to support animal life. They are especially rich in muscular and fat-producing elements. 'Baron VON LIEBIG.'

Why does Maltine contain much larger proportions of the digestive principle, Diastase, than the ordinary Extracts prepared from Barley alone?

Because the Gluten and Ceraline in the Malted Wheat have sufficient power to convert all the starch of the three Cereals into sugar, leaving the unemployed Diastase of the Wheat, Oats, and Barley in the Maltine. Gluten and Cerealine act as powerful ferments, transforming starch, first into dextrine, and then into sugar. (*See Flint's Physiology of Man, p.* 53, *and Watts' Dictionary of Chemistry, vol. i., p.* 657; *vol. ii., pp.* 625 *and* 823.)

Drs. William Roberts and J. Milner-Fothergill recommend Maltine to be mixed with the food, or taken during the meal, to get the best effects of the digestive principle, Diastase.—*Practitioner*, January 1881.

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'CARNRICK'S' BEEF PEPTONOIDS contain *only the nutritive portions* of the beef. It contains *no water* and *no inert matter* of any kind. We combine the dry Extract of Beef with an equal *portion* of Gluten to prevent a tendency to deliquescence, and in order to present the preparation in a powdered and portable form. It is well known that Gluten is the most nutritious substance found in the Vegetable Kingdom, and in nutritive elements is closely allied to Beef.

Four ounces of 'CARNRICK'S' BEEF PEPTONOIDS represent as much nutritive and stimulating properties as forty-eight ounces of the best lean Beef.

Four ounces of 'CARNRICK'S' BEEF PEPTONOIDS contain more nutritive elements than ten pounds of any Extract made by Liebig's formula, and from four to six times more Albuminoids and Fibrinoids than any Beef Extract ever offered to the Medical Profession.

Our machinery and process for the production of BEEF PEPTONOIDS are perfectly adapted to the *elimination* of all inert portions of the Beef, and the *retention* of all the nutritive constituents.

'CARNRICK'S' BEEF PEPTONOIDS *is much less expensive than any other preparation in the market, as it contains neither water or inert matter.*

The favour our preparation of BEEF PEPTONOIDS received at the hands of Drs. AGNEW, BLISS, HAMILTON, REYBURN, WOODWARD, BARNES, &c., the corps of eminent Physicians, who employed the preparation with so much advantage in the treatment of the late PRESIDENT GARFIELD, proves conclusively its great value, not only as food to be taken by the mouth, but also how important an agent it has been found in feeding by the Rectum.

Please refer to the very able article of Dr. D. W. BLISS, in New York *Medical Record*, July 15, 1882, in which he so frequently refers to our BEEF PEPTONOIDS having been used to so great an advantage, not only in the case of the late PRESIDENT GARFIELD, but many others as well.

A reliable and experienced person is employed to select the Beeves before they are slaughtered, and to superintend the killing and dressing. Great care is exercised in this respect, and none except the most healthy and suitable Beeves are employed in making our BEEF PEPTONOIDS.

Every physician will appreciate the importance of this care, for an Extract made from diseased Beef would not only be deleterious, but would, in many cases, produce lasting injury and fatal results.

The use of BEEF PEPTONOIDS is indicated as follows :—

Convalescence from all diseases, Fevers, Pneumonia, Weak Digestion, Diarrhœa, Dysentery, Phthisis, Cholera Infantum, Marasmus, Sea Sickness, Excessive use of Alcoholic Stimulants. Per Rectum in all cases where the stomach cannot digest the food, and in debility resulting from any cause. Also a valuable adjunct in voyages and camp life.

We shall be pleased to have the Profession everywhere test the value of this Preparation, and for that purpose we shall be happy to send a sample to any regular practitioner desiring it; also circulars fully explanatory.

Thanking the Profession for generous support in the past, we beg to remain, very respectfully,

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MELLIN'S FOOD

FOR INFANTS AND INVALIDS.

NOT FARINACEOUS.

Experience and physiology have taught beyond dispute that starch cannot be digested by infants until nature has supplied them with the special digestive ferment diastase at the period when their teeth are developed.

This is the only food in which the whole of the starch has been reduced into dextrine and grape-sugar, and hence it is the only one which can be conscientiously recommended by the Medical Profession, when artificial feeding has to be resorted to.

It will be found the best food for invalids who cannot digest farinaceous matter through imperfect mastication and insalivation.

Rich in phosphates and nitrogen.

From Dr. Eustace Smith, Physician-extraordinary to H.M. the King of the Belgians.

'5 George Street, Hanover Square, May 17, 1870.—Your preparation of Liebig's Food is by far the best of any with which I am acquainted. It seems to agree equally well with children, whether they are healthy or diseased, and is well borne as a rule by the youngest infants. A Food which fulfils these conditions requires little to be said to recommend it, and I have no doubt that it has by this time a very large sale.—EUSTACE SMITH, M.D.—To Mr. MELLIN.'

Prospectus and sample bottle sent post free and carriage paid to any member of the Medical Profession on application.

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Hôpital de la Pitié, 1 Rue Lacépède.—709 beds. *Physicians:* Drs. Lancereaux, Dumontpallier, Lasègue, Brouardel, Cornil, and Audhoui; *Surgeons:* MM. Verneuil and Polaillon.

Hôpital Lariboisière, 2 Rue Ambroise Paré.—706 beds. *Physicians:* Drs. Jaccoud, Bouchard, C. Paul, Proust, Siredey, and Duguet; *Surgeons:* MM. Duplay (Diseases of the Eye) and B. Anger. *Obstetric Physician:* M. Pinard. Besides the ordinary clinical instruction, instruction is also given in ophthalmic surgery and diseases of the larynx.

Hôpital Saint-Antoine, 184 Rue de Faubourg Saint-Antoine.—647 beds. *Physicians:* Drs. Mesnet, Dujardin-Beaumetz, Hayem, d'Heilly, Dieulafoy, Hallopeau, and Gourand; *Surgeons:* MM. Périer and Delens.

Hôpital Necker, 151 Rue de Sèvres.—418 beds. *Physicians:* Drs. Potain, Blachez, Rigal, and Grancher; *Surgeons:* MM. Trélat and Guyon The Civiale museum, containing numerous calculi and specimens of diseases of the urinary organs, is attached to the hospital.

Hôpital Beaujon, 208 Faubourg Saint-Honoré.—422 beds. *Physicians:* Drs. Millard, Guyot, Gombault, and Féréol; *Surgeons:* MM. Tillaux and Léon Labbé. The hospital possesses a library containing 200 volumes, and a large number of theses.

Hôpital Cochin, 17 Faubourg Saint-Jacques.—249 beds. *Physician:* Dr. Bucquoy; *Surgeons:* MM. Th. Anger and Marchand; *Obstetric Surgeon:* M. Lucas-Championnière. An obstetric department is attached to this hospital; but only a limited number of students are admitted to the morning visit.

Hôpital Laennec, 42 Rue de Sèvres.—580 beds. *Physicians:* Drs. Ball, Damaschino, Ferrand, and Legroux; *Surgeon:* M. Nicaise.

Hôpital Bichet, Boulevard Ney. *Physicians:* Drs. Gérin-Roze and Gouguenheim; *Surgeon:* M. Terrier.

Hospice de la Salpêtrière, Boulevard de l'Hôpital.—3,069 beds for old persons, and 662 for female lunatics. *Physicians:* Drs. Charcot and Luys; *Surgeon:* M. Terrillon; *Physicians to the Lunatic Department:* Drs. Legrand du Saulle, Moreau, and A. Voisin. *Assistant-Physician:* Dr. Charpentrès. There is a medical library, founded and supported by the *internes*; it contains more than 1,500 volumes. M. Charcot, one of the physicians, gives a course of instruction on diseases of the nervous system; and MM. Luys and Voisin give courses of mental pathology.

Hospice de Bicêtre.—1,794 beds for old persons, and 540 for male lunatics. There is also a small accident ward of twelve beds. *Physician:* Dr. Debove; *Surgeon:* M. Gillette; *Physicians to the Lunatic Department:* Drs. Falret, J. Voisin, and Bourneville; *Assistant-Physician:* M. Deny. The library, which was founded in 1863, contains about 2,000 volumes.

Hôpital des Enfants Malades, 149 Rue de Sèvres.—518 beds. *Physicians:* Drs. Bouchut, Labric, Simon, and Descroizelles; *Surgeon:* M. de Saint-Germain. There are wards for acute and chronic diseases, small-pox, and diseases of the eye.

Hôpital Trousseau, 89 Rue de Charenton.—427 beds. *Physicians:* Drs. Bergeron, Triboulet, Cadet de Gassicourt; *Surgeon:* M. Lannelongue.

Hôpital Saint-Louis, 40 Rue Bichart.—823 beds; of which 637 are occupied with cases of skin-disease, 28 with obstetric cases, and the rest with surgical cases. *Physicians:* Drs. Lailler, Vidal, Guibout, Besnier, Fournier, and Ollivier; *Surgeons:* MM. Péan and Le Dentu. General medicine is not taught in this hospital, but there are ample means for the special study of diseases of the skin, on which courses of theoretical and practical lectures are delivered. A museum containing several hundred models and drawings, illustrating diseases of the skin; to which is added M. Fournier's collection of illustrations of venereal diseases. The hospital is also rich in surgical cases.

Hôpital du Midi, 111 Boulevard du Port-Royal.—336 beds, devoted exclusively to the reception of cases of venereal disease. *Physicians:* Drs. Simonet and Mauriac; *Surgeon:* M. Horteloup.

Hôpital de Lourcine, 111 Rue de Lourcine.—243 beds. *Physicians:* Drs. Martineau and Rathery; *Surgeon:* M. Berger. Students are admitted to the hospital by special ticket.

Hôpital Tenon, Rue de la Chine.—635 beds. Besides these, 190 beds can be added in cases of epidemics, &c. *Physicians:* Drs. Straus, Rendu, Sevestre, Huchard, Tenneson, and Landouzy. *Surgeons:* MM. Lucas, Championnière, and Gillette.

Maison d'Accouchement, 121 Boulevard du Port-Royal.—316 beds. *Physician:* Dr. Hervieux; *Surgeon:* M. Tarnier; *Assistant-Surgeon:* M. Marchand. The hospital is employed exclusively for the education of midwives, and is not open to students of medicine. Attached to the hospital is a school for midwives.

Clinique d'Accouchement, 89 Rue d'Assas. *Surgeon:* M. Depaul.

Hospital Appointments in Paris: Concours.

The medical staff of each hospital in Paris consists of—1. Physicians and Surgeons; 2. Prosectors; 3. *Internes* and *Externes* in Medicine and in Surgery; 4. *Pharmaciens;* 5. *Internes* in Pharmacy.

All the appointments in the hospitals of Paris are obtained by *concours;* and, when vacant, are eagerly competed for.

Each medical service is under the direction of a physician, and comprises also an *interne* and three or four *externes*. The organisation of the surgical departments is similar; but the number of pupils is greater, and there are generally two or three *internes* and five or six *externes*.

The chief of the medical staff, physician or surgeon, receives annually a sum of 1,200 *francs* (£48) in the central hospitals, and 1,500 *francs* (£60) in the more distant ones. The physicians retire from hospital duty at the age of 65, and the surgeons at 63. When first nominated, they have to attend the consultations at the central bureau, and to do duty for any of the hospital physicians and surgeons that may be absent. As vacancies occur in the hospitals, they receive appointments in the order of their nomination.

The *internes* receive 600 *francs* for the first year, 700 *francs* the second year, 800 *francs* the third year, and 1,000 *francs* the fourth year. Some of them are also provided with lodging, fire, and light; others receive 400 *francs* yearly in lieu of lodging.

The *interne* is the most direct assistant of the hos-

pital physician or surgeon; he accompanies him in his morning visit, and himself visits the patients in the evening. The *internes* remain on duty in turn to attend to urgent accidents and cases of illness.

In November, the *internes* are invited to compete for prizes. To those of the first and second years are offered a silver medal, books, and two certificates of honour. Those of the third and fourth years compete for a gold medal, a silver medal, and two certificates of honour. The successful candidate for the gold medal is entitled to two additional years of *internat*.

Those candidates who are placed in the first list at the *concours*, but do not succeed in getting appointments, are termed provisional *internes*, and fill the places of those who are absent. They have, however, to compete again at the end of the year, if they desire to receive appointments.

The *externes*, who are appointed for three years, have to take records of cases, either alone or under the direction of the *internes*, to assist the latter in dressing difficult cases, and to dress the minor cases. The *externes* at the central hospitals are not paid; at those more distant from the centre of the city, they receive 300 *francs* yearly; at others more distant, one *franc* daily; at the Maison de Santé, 300 *francs* yearly, and 300 *francs* for expenses; at the Tenon Hospital, 50 *francs* monthly.

The *concours* for the *external* generally commences early in October, and continues until the end of December. Candidates must not be under 18, nor above 26 years of age. They must produce—1. A register of birth; 2. A certificate of vaccination; 3. A certificate of good conduct signed by the mayor of the commune in which the candidate is domiciled; 4. A certificate of at least one inscription in the Faculty of Medicine. The examination consists in—1. An oral description in some subject in descriptive anatomy; 2. A similar description of some elementary subject in pathology or minor surgery. For each five minutes are allowed, after five minutes of reflection. The maximum number of marks that can be gained by a candidate is 20 for each examination. The examination is conducted by four physicians and three surgeons of the central bureau, generally from those most recently appointed.

The *concours* for the *internat* takes place nearly at the same time as that for the *external*. Candidates must not be more than 28 years old, and must produce certificate of having performed the duties of *externe*, at least from the first day of the preceding January, without interruption (unless this have been unavoidable); also certificates from the physicians and surgeons and the directors of the hospitals in which they have performed the duties of *externe*, testifying to their punctuality, obedience, and good conduct. The examination commences with a written essay on some subject in anatomy and medical or surgical pathology, for which two hours are allowed. This is followed by an oral examination in the same subjects; ten minutes being allowed for each answer after ten minutes of consideration. The maximum of marks obtainable for the written examination is 30; for the oral 20. After this the candidates are classified.

At the end of the *concours*, the candidates are classified according to the number of marks; and the 35 or 40 first on the list are nominated *internes*.

The first four candidates on the list are the successful candidates for the prize for *externes*, the examination for which is the same as that for the *internat*. The first receives a case of instruments of the value of 300 *francs*, and has, during his first year, the sum of 800 *francs* in addition to the payment which he receives in common with the other *internes*. The first and second candidates are also presented with books.

The prizes offered to the *internes* are competed for in the beginning of November. The examination consists in—1. A written composition, for which two hours are allowed, bearing on anatomy, physiology, and pathology; 2. An oral description of some subject in external pathology; 3. A similar description of some subject in internal pathology (for each of these ten minutes are allowed); 4. *Internes* of the third and fourth years must also have sent in, before August 15, an original essay on some subject selected by them; this is generally based on observations made in the hospital.

The Civiale prize, of the value of 1,000 *francs*, is given every second year to the best essay by an *interne* on duty on some point in the pathology of the genito-urinary passages.

The *concours* at the Bureau central for the office of physician consists of five examinations. 1. The candidate gives a lecture for a quarter of an hour on a patient, for whose examination ten minutes are allowed. 2. A lecture of twenty minutes' duration, after twenty minutes' reflection, on some subject in medicine. 3. A written consultation on a medical case; ten minutes being allowed for examining the patient, and three-fourths of an hour for writing out the consultation. To each of these examinations a maximum of 20 marks is allotted. During these three examinations, a process of elimination takes place, so that at last there remain five candidates for one place, eight for two, and ten for three places. These are then further subjected to the following tests: 1. A written composition for which three hours are allowed, on some subject in medicine, which must comprise a question in pathological anatomy; 2. A lecture of thirty minutes' duration on two patients, twenty minutes being allowed for examining them.

In the *concours* for the office of surgeon, the examinations are nearly the same; there is, in addition, an examination in operative surgery, and the candidate has to lecture on one subject instead of two.

MEDICAL SERVICE IN THE FRENCH ARMY.

Candidates for admission to the French medical service are chosen yearly by *concours*, in numbers proportioned to the demand of the service. They are distributed, at their own option and convenience, among the towns which possess military hospitals or wards for soldiers in civil hospitals, and have also a school of medicine; viz., Paris, Lille, Nancy, Lyons, Marseilles, Montpellier, Toulouse, Bordeaux, Nantes, Rennes, and Algiers: and *concours* are held at each of the places, for admission of pupils in medicine and pupils in pharmacy.

The following classes of candidates are admitted as pupils in medicine: 1. Students having eight, twelve, or sixteen inscriptions for the doctorate, and having passed the corresponding examinations: 2. Doctors in medicine. They must be born or naturalised Frenchmen, and must not have exceeded, on January 1st of the year in which the *concours* takes place, 23 years of age in the case of students with eight inscriptions, 24 years in the case of students with twelve, 25 years in the case of students with sixteen inscriptions, and 26 years in the case of

doctors of medicine. They must be certified as fit for service by an army medical officer holding the rank of surgeon-major or a higher rank, and, if necessary, their fitness may be verified by an examining board; and they must engage on honour to serve at least ten years from the date of appointment of *aide-major* of the second class. Candidates must make application for admission on a form to be obtained at the offices of the military intendants resident in the places above mentioned.

The subjects of the examinations at the *concours* are as follows. For candidates with eight inscriptions: 1. A written composition on a question of physiology; 2. Questions on descriptive anatomy and physiology. For candidates with twelve inscriptions: 1. A composition on a subject in general pathology; 2. Questions in internal and external pathology; 3. Questions on anatomy and psychology. For candidates with sixteen inscriptions: 1. A written composition on a question in medical pathology and therapeutics; 2. Questions on external pathology and operative surgery; 3. Questions on internal pathology, hygiene, and therapeutics. For doctors in medicine: 1. A written composition on a subject in general pathology; 2. An oral examination on regional anatomy and its applications to medicine and surgery; 3. Clinical examination of two patients. The examinations are conducted by a board, consisting of a medical inspector as president, a professor, and an *agrégé* professor in the School of Military Medicine and Pharmacy, and the professor of applied chemistry in the school, together with a *pharmacien-major* of the first class. Three hours are allowed for writing the essay; and each series of questions occupies twenty minutes.

Having passed a satisfactory examination, the candidates are attached to the military hospitals or wards in the town, and are subject to certain disciplinary rules with the object of regulating their studies. They do not wear uniform. Each candidate is allowed, for two years at most, from the time of his thirteenth inscription a sum of 1,200 *francs* (48*l.*) *per annum*, to pay for maintenance, books, and instruments. Those alone who have been bursars in the military Prytaneum are allowed, from the time of their admission as pupils in the military medical service, a monthly allowance of 1,200 *francs* in Paris, 1,000 *francs* in Lyons and Marseilles, and 800 *francs* in the other towns.

In case of rejection, the fees for admission to a second examination must be paid by the candidate, and no one is admitted after a second rejection. Permission to study during an additional year is granted only when the pupil has been prevented by illness during at least two months in the year from following his studies.

Doctors of Medicine who have passed the required examinations are admitted to the School of Military Medicine and Pharmacy, Val-de-Grâce, with the title of *médecin stagiaire*. The instruction given to them in the school is essentially practical, and has special reference to the requirements of military service. They are allowed 2,800 *francs* (112*l.*) yearly, and wear uniform. They attend the school of Val-de-Grâce in Paris during at least eight months, and, if found qualified on examination, receive the rank of *aide-major* of the second class.

NAVAL MEDICAL SCHOOLS.

For the purpose of training medical officers for the Navy there are three schools—Brest, Rochefort, and Toulon.

GERMANY.

GRADUATION IN MEDICINE.

IN the German Empire there are twenty Universities which possess a Medical Faculty and grant degrees in Medicine; viz., those of Berlin, Bonn, Breslau, Erlangen, Freiburg im Breisgau, Giessen, Göttingen, Greifswald, Halle, Heidelberg, Jena, Kiel, Königsberg, Leipzig, Marburg, Munich, Rostock, Strasburg, Tübingen, and Würzburg.

No one can legally practise Medicine in this empire unless he have passed the Staats-Examen Board. The law forbids anyone to call himself *Arzt* (Physician) unless he have passed the State Board; or Doctor, unless he have passed the examinations at some University, and thereby acquired the degree. The doctor who has not passed the State Board is not a licensed physician, and may hold no appointment; and if he practise, he has no power or right to insist on payment of his services. The practitioner who is neither doctor nor physician, if any mishap occur from his ignorance, is punished not only by fine, but by imprisonment for a period varying from six months to ten years.

The expenses of passing the State Board are less than half of those for the Faculty of an University, and the examination is more exclusively practical; hence it is selected by the poorer students who seek only a rural practice. The majority of students pass both the University and State examinations, and this is especially necessary for those who aspire to any medical office.

No medical diploma, either from an University or otherwise, can be obtained in Germany without a gymnasial certificate, to obtain which an examination must be passed at a German gymnasium (public school) in Greek, Latin, at least one Modern Language besides German, Logic, the Physical Sciences, and Mathematics. A candidate who cannot present this, or an equivalent certificate, must pass a preliminary examination in those subjects.

The number and character of professional chairs in the Medical Faculties vary greatly in the different Universities; but in all we find three classes of teachers, viz., professors, extraordinary or assistant professors, and *privat-docents*.

The professors are appointed for life, and at the end of thirty years' service can retire on a pension; they receive a fixed salary from the State or University—a part of the revenue derived by the medical faculty from certain fees, and their lecture fees from the students. The fixed salary is occasionally increased, according to the success and reputation of the professor. Any doctor in medicine may be a candidate for a vacant chair, the selection being made by the Minister of Public Instruction from a list of names recommended by the Faculty.

The extraordinary or assistant professors are appointed in like manner from among the *privat-docents*. As a rule, their compensation comes only from students' fees, but occasionally a small fixed salary is allowed.

There are no independent schools in Germany. There is, however, little objection to free, or, as it is sometimes called, 'extramural teaching,' and hence young men of ability can establish themselves as private teachers, demonstrators, &c., in the immediate vicinity of the Universities, relying on their own talents and tact to secure pupils. These are

the *privat-docents*, much of whose teaching consists in giving short courses, of from six to eight weeks' duration, on special subjects. The position of *privat-docent* is accessible to all doctors of medicine, and the number is unlimited. Their compensation is from students' fees, and they may not underbid the regular professor. At some Universities they are furnished with rooms, and given a share of the clinics; at others, they receive little or no assistance. The *privat-docents* are understood to be in training for professorships, and, if they show marked ability as teachers or as investigators, their promotion may be very rapid.

The course of study at the German Universities varies according to the requirements for the particular medical degree, but in no case is it less than three years. At some, the course extends over four years. The following lectures are the least which will be accepted by any of the University Faculties, and may be taken in whatever order the student may wish. The courses occupy nine-and-a-half months in each year. For one year: Chemistry, six hours weekly; Physics, four hours weekly; Zoology and Comparative Anatomy, three hours weekly; Botany, three hours weekly; Mineralogy and Geology, two hours weekly; Anatomy, Histology, and Preparation of Specimens, ten hours weekly; Physiology and Laboratory Work, eight hours weekly; General Pathology, Pathological Anatomy, and Practical Work, six hours weekly; Pharmacology and Toxicology, two hours weekly. For two years: Special Pathology and Medical Clinic at Hospital, ten hours weekly; General and Special Surgery, Hospital Clinics, and Operating, ten hours weekly for one year, or five hours weekly for two years. This course may not be taken at the same time as the previous medical course. Obstetrics and Gynæcology, with Clinics, three hours weekly for one year; Eye and Ear Clinics, Use of Ophthalmoscope, Operations, four hours weekly for one year; Forensic Medicine, two hours weekly, for one year.

The professors receive fixed salaries, varying from 120*l.* to 480*l.* annually, and increased every ten years by the addition of from 20*l.* to 50*l.* The students' fees for the entire course vary in different schools from 36*l.* to 52*l.*

Regulations for the German Staats-Examen.

The examination for the licence to practise as a Physician, Surgeon, and Accoucheur, in any part of the German Empire, may be either passed before the Medical Examination Commission at Berlin, or before a Medical Examination Committee at any German University. The Examination Committees, consisting of scientifically educated professional men in all branches of the Faculty, are appointed every year by the authorised Central Board, on whose decision it depends whether the President of the Commission shall be selected from the examiners or not. The notice for examination before the superior Examination Committee must be deposited with the Minister of Medical Affairs at Berlin, and the notice for examination before an Academical Examination Committee with the acting Curator of the University chosen, or, in default of such functionary, with the nearest superior Court of the Examination Commission. To the notice for examination must be attached: 1. A certificate of having completed a course of study at a gymnasium; 2. A certificate of the full course of medical study at an University; 3. A certificate of proficiency at the Natural Science Examination of some German University; 4. Proof that the candidate has taken part and had practice for at least two terms both in Clinical Surgery and in Clinical Medicine, and in Clinical Midwifery has attended at least four separate labours; 5. A testimonial from a public vaccinator, or some other recognised medical man, that the candidate has acquired the necessary dexterity in Vaccination.

The examinations commence every year in November, and are continued beyond the middle of July in the following year.

Candidates who have not reported themselves at the latest by the end of the year, and who have not deposited the certificates required, are not admitted to examination before the November following. Exceptions to this rule can only be made under very special circumstances.

The examination is divided into five parts, viz.: 1. Anatomical, Physiological, and Pathological; 2. Surgical and Ophthalmic; 3. Medical; 4. Gynæcological; 5. *Vivâ voce*. All candidates, without exception, must pass these examinations in the above order.

In the first portion, the candidate has to write essays on the various subjects, and also to demonstrate on the dead body, and reply to questions put to him.

In the second portion, the candidate has to undergo a clinical and a technical test. The clinical part is conducted in the surgical department of a large hospital, or in the clinic of an University, and usually lasts from seven to nine days, the candidate during this period taking charge of several patients, under the supervision of one of the examiners. During this period, also, the candidate may be required to satisfy the examiners that he can operate on the dead body, and is always required to give his diagnosis in an ophthalmic case.

The third portion of the examination is devoted to medicine, and is purely clinical. The candidate is examined in a hospital or in a clinic of an University, and is required to write prescriptions, and to give his opinion as to the doses of certain drugs used in certain cases of sickness.

The fourth portion consists in an examination conducted in the Charity Lying-in Hospital at Berlin, or in the Lying-in Hospital of an University. The candidate has to examine cases in the presence of an examiner, and to give the diagnosis, prognosis, and treatment. He is also required to attend a case of labour in the presence of an examiner, and to write down his opinion afterwards, stating the exact presentation, &c. He is also required to undertake the treatment of cases during seven days, under the superintendence of an examiner.

The fifth portion, the *vivâ voce* examination, is conducted publicly, under the superintendence of the President of the Examination Commission, by three Commissioners. To this examination, only those candidates are admitted who have satisfactorily passed the previous portions. This examination includes General and Special Pathology, Therapeutics, Surgery, Midwifery, Pharmacy, and Hygiene. Any candidate who fails to pass these five portions of the examination twice will not be readmitted to examination.

The fee for the examination is 204 marks (or 10*l.* 4*s.* English money), viz.:

	£	s.	d.	Marks.
1st portion	2	6	0	= 46
2nd ,, ...	3	3	0	= 63
3rd ,, ...	1	14	0	= 34
4th ,, ...	1	4	0	= 24
5th ,, ...	0	6	0	= 6
Expenses.....	1	11	0	= 31
	10	4	0	204

The examinations are always conducted in the German language.

UNIVERSITY OF BERLIN.*

THE conditions for promotion to the Doctorate of Medicine, Surgery, and Midwifery, at the Royal Frederick William University at Berlin, are as follows.

1. Candidates must have studied medicine at least four years in one or more Universities regularly constituted. Universities and Medical Colleges abroad are deemed equivalent to the Univerities in Germany. 2. Candidates under 30 years of age who have not matriculated at this University, or who have left previously to their application for promotion, must matriculate again. This can be done free of cost. Both these and matriculated students of this University must, before making application for promotion, take out a preliminary certificate of having left, and will not receive the real certificate until after promotion. 3. The candidate has to make application to the Dean, handing in at the same time the documents mentioned under 1 and 2. He has then to pass a written and verbal preliminary examination before the Dean, before being admitted to the *examen rigorosum* before the Faculty. The verbal examination is generally conducted in German or Latin, and extends to all branches of theoretical and practical medicine. At the written examination, an *ex tempore* essay must be written, without any assistance, in a given time. 4. After the preliminary examination, the Dean lays before the Faculty the documents having reference to the personality and the course of studies of the candidate, the judgment respecting the preliminary examination, and the essay composed thereat. Should that body decide for admission, the Dean will appoint as early a time as possible for the *examen rigorosum*. 5. The *examen rigorosum* takes place before six members of the Faculty, is verbal only, and is concluded at one sitting, each of the examiners examining the candidate for a quarter of an hour. No branch of theoretical and practical medicine and surgery is excluded. It is generally held in German, but, if necessary, in Latin. From this examination no candidate can be exempted. If he be rejected, six months must elapse before re-admission. 6. After this, the candidate must present a German or Latin dissertation. The members of the Faculty are ready to advise the candidate as to the choice of a subject for his essay; but the essay must be entirely original; and the candidate must declare on oath in writing that he has composed it entirely himself. If the manuscript be pronounced good by the Faculty, the candidate will have to get printed, at his own expense (about 85 *marks*), by a certain printer, a prescribed number of copies. It must consist of at least two quires, and give evidence of a good scientific knowledge. To this must be annexed a brief *curriculum vitæ*, and at least three theses approved by the Dean. 7. After this, follows the public discussion in the Aula of the University. The discussion has reference both to the dissertation and to the theses. Next, the opponents chosen by the candidate, who must be at least three in number, divide on the subject. Their names must appear on the title-page of the dissertation. Afterwards, anyone belonging to the University is at liberty (*e corona*) to oppose. Both the candidates and the opponents must be dressed in black. The discussion is either in German or in Latin. The Minister of Education has the privilege of allowing the use of another language, and also of dispensing with the discussion. 8. After the discussion is ended the oath-taking and promotion of the candidate as a Doctor of Medicine, Surgery, and Midwifery takes place, conducted by the Dean or his representatives. After the ceremony of promotion is completed, the Dean delivers the diploma to the newly created doctor, who inscribes his name in the book of the Faculty. The expense of making out the diploma (15 *marks*) is borne by the candidate. A copy of it is fixed on the black board of the Faculty, and a certain number of copies are delivered to the Registrar of the University, for distribution. Promotion *in absentiâ* can on no account take place. 9. Four hundred and forty *reichsmarks* (22*l*.) must be paid to the Dean as fees for the Degree of Doctor in Medicine, of which 221 *marks* must be paid on application and are forfeited after the *examen rigorosum*, if the candidate be unsuccessful. The second portion (204 *marks* for the Faculty and 15 *marks* for the University library) may be paid either at the same time with the other or within the period within the *examen rigorosum* and the promotion. In addition to this, the candidate has to pay expenses of printing the dissertation and diploma (*vide* 6 and 8). 10. The shortest time in which the whole of the proceedings for obtaining a doctor's degree can be gone through is ten days. In this case, however, it is stipulated that the dissertation be delivered ready for printing to the Dean at the first application, and that the other business of the Faculty permits them to proceed at once to the examinations.

The Medical Faculty of this University consists of the following professors, with between forty and fifty *docents* or private teachers. *Ordinary Professors:* W. Waldeyer, Anatomy; A. Bardeleben, Surgery, and Clinical Surgery; R. Virchow, Pathology; F. T. Frerichs, Medicine and Clinical Medicine; E. Du Bois-Reymond, Physiology; A. Hirsch, Medicine and Epidemiology; E. Leyden, Medicine and Clinical Medicine; E. von Bergmann, Surgery and Clinical Surgery; C. Schröder and A. Gusserow, Obstetrics and Gynæcology; O. Liebreich, Materia Medica; C. Schweigger, Diseases of the Eye and Ophthalmic Clinic; C. Westphal, Pyschology and Psychiatric Clinic. *Extraordinary Professors:* E. Henoch, Diseases of Children; F. Gurlt, Practical Surgery; C. Liman, Forensic Medicine; C. Skrzecka, Hygiene and Medical Police; J. Meyer, Medicine; R. Hartmann, Anatomy; G. Lewin, Diseases of the Skin and Syphilis; H. Jacobson, Medicine; (vacant) Dental Surgery; H. Munk, Physiology; C. A. Ewald, Physical Diagnosis; A. Lucae, Aural Surgery; E. Salkowski, Chemistry; G. Fritsch, Physiology; O. Frantzel, Medicine; H. Senator, Diseases of Children; F. Busch, Surgery; H. Kronecker, Physiology; H. Fashbender, Gynæ-

* For much of the information in this and subsequent pages, we are indebted to Dr. Hardwicke's *Medical Education and Practice in all Parts of the World.*

cology; H. L. Schöler, Ophthalmic Surgery; J. Hirschberg, Ophthalmic Surgery; E. Küster, Surgery; A. Christiani, Physiology; M. Bernhardt, Medicine. The following professors also give instruction in subjects connected with medicine in the Philosophical Faculty. *Ordinary Professors:* S. Schwendener, Botany; H. Helmholtz, Physics; A. W. Hofmann, Chemistry; A. W. Eichler, Botany; F. Rudorff, Chemistry. *Extraordinary Professors:* A. Garcke, Botany; L. Kny, P. Ascherson, Botany; E. von Martens, Zoology; E. Sell, Chemistry; A. Pinner, Chemistry and Pharmacy; C. Liebermann, Chemistry; L. Wittmack, Botany; C. Jessen, Botany.

The institutions for Clinical Teaching connected with the University are—the University Polyclinic (Dr. Meyer); the Ophthalmic Polyclinic (Dr. Schweigger); the Aural Polyclinic (Dr. Lucae); the Obstetric Clinic (Dr. Schröder); the Institute for Practical Instruction in State Medicine (Dr. Liman); in the Charité Hospital, the Medical Clinic (Dr. Frerichs), the Clinic for Elementary Medical Instruction (Dr. Leyden), the Surgical Clinic (Dr. Bardeleben), the Ophthalmic Clinic (Dr. Schweigger), the Obstetric Clinic (Dr. Gusserow), the Gynæcological Clinic (Dr. Schröder), the Clinics for Diseases of the Skin and Syphilis (Dr. Lewin), for Diseases of Children (Dr. Henoch), and for Diseases of the Mind and Nervous System (Dr. Westphal). The Pathological Institute is under the direction of Professor Virchow; the Physiological Laboratory under that of Professor Du Bois-Reymond; the Chemical Laboratory under that of Professor Hofmann; and the Pharmaceutical Laboratory under that of Professor O. Liebreich. The Pathological Institute—which owes its existence in its present form to Professor Virchow, and has served as a model for numerous similar institutions in Germany and elsewhere—is situated within the grounds of the Charité Hospital. It contains a lecture theatre, a room for demonstrations, a museum, a chemical laboratory, a histological laboratory, a suite of rooms for the *post mortem* examinations, private rooms for the professor and his assistants, while in the basement floor there are kept animals for experiment.

UNIVERSITY OF BONN.

A DEGREE in Medicine, Surgery, and Midwifery is granted only under the following conditions, viz.:

1. An examination in all branches of Medicine and Surgery of about three hours' duration in the German language; 2. A written scientific dissertation in German or Latin; 3. Public defence of the dissertation in German or Latin; 4. Fee for the examination and diploma, 360 *marks* (18*l.*), which must be paid prior to examination.

The following are the Professors in the Medical Faculty of this University. *Ordinary Professors:* C. Binz, Materia Medica; F. Trendelenburg, Surgery; C. Köster, Pathology; A. de la Valette St. George, Anatomy and Histology; F. von Leydig, Comparative Anatomy; E. Flüger, Physiology; H. Rühle, Medicine; T. Sämisch, Diseases of the Eye; G. Veit, Gynæcology and Forensic Medicine. *Extraordinary Professors:* C. Finkelnburg, Mental Diseases; J. Doutrelepont, Surgery; C. von Mosengeil, Surgery; F. Obernier, Diseases of Children; H. Schaaffhausen, Physiology; M. Nussbaum, Anatomy and Histology. Instruction is also given in the Philosophical Faculty—*Ordinary Professors:* R. Hertwing, Zoology; R. Clausius, Experimental Physics; E. Strassburger, Botany; and A. Kekulè, Chemistry. *Extraordinary Professor:* O. Wallach, Chemistry; F. Schmitz, Botany.

Connected with the University are medical, surgical, obstetric, and ophthalmic clinics; an anatomical theatre and museum, and physiological, pathological, pharmacological, and chemical institutes.

UNIVERSITY OF BRESLAU.

THE following Professors belong to the Medical Faculty of this University. *Ordinary Professors:* A. Biermer, Medicine; E. Ponfick, Pathology; H. Fischer, Surgery; R. Förster, Ophthalmic Surgery; H. Häser, Materia Medica and Therapeutics; C. Hasse, Anatomy; R. P. H. Heidenhain, Physiology; H. Fritsch, Obstetrics and Gynæcology. *Extraordinary Professors:* L. Auerbach, Comparative Anatomy; H. Cohn, Ophthalmology; H. Friedberg, Forensic Medicine and Public Health; R. Gscheidlen, Physiology and Physiological Chemistry; I. Klopsch, Surgery; A. Neisser, Diseases of the Skin and Syphilis; H. Neumann, Physiological Medicine; E. Richter, Surgery; R. Voltolini, Diseases of the Ear; L. Hirt, Forensic Medicine and Hygiene; H. Sommerbrodt, Medicine; O. Berger, Medicine. Instruction is also given in the Philosophical Faculty on subjects connected with medicine by—*Ordinary Professors:* C. J. Löwig, Chemistry; H. R. Göppert, Pharmacology; A. Schneider, Zoology; O. E. Meyer, Experimental Physics; T. Poleck, Chemistry; F. Cohn, Botany. *Extraordinary Professors:* G. W. Körber, Botany; F. E. Dorn, Physics; V. von Richter, Chemistry.

The University possesses anatomical, physiological, pathological, pharmaceutical institutes, and clinics of medicine, surgery, obstetrics, ophthalmic surgery, syphilis and skin-diseases, and mental diseases.

UNIVERSITY OF ERLANGEN.

THE following are the regulations to be observed by candidates for the degree of Doctor of Medicine in this University.

1. Candidates for the degree of Doctor must announce their intention to the Dean of the Faculty of Medicine and present the following documents: *a.* Evidence of having gone through the curriculum in a German gymnasium, or proof of equivalent general education; *b.* Proof of having studied medicine in one of the German Universities, or in a corresponding medical school abroad, during at least three years; *c.* A thesis, composed by the candidate, on some subject in medicine or natural science, with a written declaration, on word of honour, that the work is absolutely the candidate's own. 2. The dissertation is examined by a referee, appointed by the Dean; and, if it be judged to be of sufficient merit, the candidate is admitted to an oral examination, which is conducted in the German language. It may take place in two forms; *a.* As a colloquium, in the case of those who have passed an examination in medicine before a German examining board; *b.* As an extended examination on all departments of medical science, in the case of those who have not passed such an examination. The colloquium takes place under the presidency of the Dean before three delegates of the Faculty; the detailed examination is conducted by the Dean and

four other members of the Faculty. Both the colloquium and the latter examination are held in public, and in German. 3. After the conclusion of the oral examination, the examiners decide on the result. If the decision be favourable, the degree of Doctor is at once conferred, the fact being communicated to the candidate by the Dean, and his diploma issued to him. 4. The candidate, if his dissertation be approved, must have it printed at his own expense. At the back of the title-page it must be stated that the dissertation is printed with the consent of the Faculty; and the name of the reporter (*referent*) must be given. 5. The candidate must pay a fee of 300 *marks* (equal to about 15*l.* 10*s.*) for the granting of the Doctor's degree, and must also deliver 150 copies of his dissertation to the Faculty. 6. If the candidate fail to pass the examination, half of the fee is returned to him.

The Medical Faculty of this University consists of the following professors, with teachers. *Ordinary Professors:* J. von Gerlach, Anatomy; F. A. Zenker, Pathology; W. Heineke, Surgery; I. Rosenthal, Physiology; W. O. Leube, Practice of Medicine and Clinics; H. Sattler, Ophthalmology; P. Zweifel, Midwifery. *Extraordinary Professors:* F. W. Hagen, Psychological Medicine; W. Filehne, Materia Medica and Therapeutics; F. Penzoldt, Medicine. Instruction in subjects connected with medicine is also given in the Philosophical Faculty. *Ordinary Professors:* E. Lommel, Experimental Physics; Fischer, Chemistry; M. Reess, Botany; E. Selenka, Comparative Anatomy; A. Hilger, Pharmacy and Chemistry.

In connection with the University are the following institutions: the University Hospital, with medical, surgical, obstetric, psychiatric, and ophthalmic clinics; an anatomical, a physiological, and a pathological institute.

UNIVERSITY OF FREIBURG.

THE Faculty of Medicine here grants a degree in Medicine, Surgery, and Midwifery. The following are the conditions to be observed before being admitted to examination.

1. A certificate must be produced showing the respectability of the candidate, and also the amount of his education, both prior to and since his admission as a medical student. 2. A scientific dissertation must be handed to the Dean, written in German or Latin. 3. A fee of 300 *marks* (15*l.*) must be paid to the Chief Beadle. In case of rejection, the candidate will receive half the fee back; and when he presents himself for examination again, he pays only that amount, viz., 150 *marks*. Should these conditions be complied with, and the thesis be deemed satisfactory, the candidate will be admitted to a *vivâ voce* examination in the German language.

The following are the subjects for examination: Anatomy, Materia Medica, and Toxicology, Physiology, Medicine, Surgery, Pathological Anatomy, Midwifery, Ophthalmology.

If a candidate have already passed an examination as Physician before a German commission of examiners, the number of subjects may be reduced.

If the examination be passed, one of the following grades of honour is conferred: 1. *Summâ cum laude;* 2. *Insigni cum laude;* 3. *Cum laude.*

The Medical Faculty of the University is thus constituted. *Ordinary Professors:* A. Ecker, Human and Comparative Anatomy; H. Strasser, Anatomy; L. von Babo, Chemistry and Physiology; R. Maier, Pathological Anatomy and State Medicine; A. Hegar, Midwifery; F. Hildebrand, Botany; W. Manz, Ophthalmic Surgery; Ch. Bäumler, Materia Medica and Medicine; F. F. L. Thomas, Materia Medica and Medicine; (vacant) Surgery; E. Baumann, Physiology. *Extraordinary Professors:* A. Schinzinger, Surgery; J. Latschenberger, Physiological Chemistry and Practical Physiology; R. Wiedersheim, Anatomy and Histology; A. Röhrig, Pharmacology; J. von Kries, Physiology; P. Langerhans; J. von Rotteck; H. Strosser; E. Bostron. In the Philosophical Faculty, lectures on subjects connected with medicine are given by Professors A. Weismann in Zoology, A. Claus in Chemistry, and E. Warburg in Experimental Physics.

The University library contains 250,000 volumes. There are a chemical laboratory and institutions for the practical study of anatomy, pathology, physiology, &c.; and medical, surgical, obstetric, and ophthalmic clinics.

UNIVERSITY OF GIESSEN.

THE Faculty of Medicine grants a degree in Medicine, Surgery, and Obstetrics, which can only be obtained on the following conditions.

1. A *curriculum vitæ*, written by himself, must be sent to the Faculty by the candidate; also a certificate of gymnasial maturity, and a certificate of at least three years' medical and surgical study at a University or a Medical Institution. If the candidate be not a native of Germany, he must produce a certificate of sufficient preliminary studies from his own country in place of the gymnasial maturity certificate (a degree in arts or certificate of having passed the matriculation examination for medical students at any recognised university is sufficient). 2. The candidate must present a dissertation on some medical subject, written in German or Latin, together with a declaration in his own handwriting that he has composed the dissertation himself without help from others, except what may be stated by him. In place of the dissertation, a previously published treatise or literary production may be substituted. 3. In case of admission by the Faculty, the whole of the documents are laid before the Rector and the Chancellor, who may object to the admission if they be not satisfied. 4. If no objection be made by the Rector and Chancellor, and the candidate have paid the promotion fees to the Quæstor of the University, the dissertation is to be judged by a Referee. If the Referee declare the work to be unsatisfactory, the candidate is rejected. In the contrary case, he is admitted to *vivâ voce* examination before the Faculty. 5. The *vivâ voce* examination takes place in the German language, and lasts two or three hours. It is held in public, except when the candidate is already advanced in age, or in a few other cases, when the Faculty decree that it may be held in private. 6. The verbal examination embraces the following subjects: Anatomy, Physiology, Pathological Anatomy, Histology, Pathology, and Medicine, Materia Medica and Therapeutics (including Toxicology), Surgical Pathology and Surgery, Forensic Medicine, Obstetrics. 7. Immediately after the conclusion of the examination, the result is decided on by the President and examiners in a private sitting, and at once made known to the candidate by the President. The examination is not passed when two or more members of the Faculty declare the re-

sult of the examination to have been unsatisfactory. The kind of degree to be granted is decided by a majority of votes—whether *cum laude*, *magnâ cum laude*, or *summâ cum laude*. 8. The approved dissertation must be printed and published, and the appointed number be presented to the Faculty before the promotion takes place. Exception is made when the candidate has already handed in a printed treatise. 9. Promotions to the M.D. *in absentiâ* do not take place at this University, except in the case of degrees granted *honoris causâ* by the unanimous decision of the Faculty, to men who have rendered some great service to the science of medicine. 10. The fee for promotion is 440 *marks* (22*l.*), which must be paid to the Quæstor of the University at the time of the petition for admission. If the dissertation be not considered satisfactory, and the candidate in consequence be not admitted to the verbal examination, 100 *marks* are retained by the Faculty. If the verbal examination be not passed, half the fees are forfeited; but, if the candidate present himself again, he has only to pay half the fees.

The following are the professors in the Faculty of Medicine in this University. *Ordinary Professors:* H. Bose, Surgery: J. Wilbrand, Forensic Medicine and Hygiene; C. Eckhard, Physiology and Toxicology; F. Riegel, Medicine; R. Kaltenbach, Obstetrics and Gynæcology; G. Pflug, Veterinary Medicine; F. W. von Hippel, Ophthalmic Surgery; C. Gähtgens, Materia Medica. *Extraordinary Professors:* F. Birnbaum, Diseases of Children; F. Eichbaum, Histology and Veterinary Medicine. There are also *docents*. In the Philosophical Faculty, subjects connected with medicine are taught by—*Ordinary Professors:* H. Will, Chemistry; H. Hoffmann, Botany; W. C. Röntgen, Experimental Physics; A. Schneider, Zoology. *Extraordinary Professors:* A. Naumann and A. Laubenheimer, Chemistry.

The University Library contains 140,000 volumes. There are an academical hospital, with medical, surgical, and ophthalmic clinics, a lying-in institution, a chemical laboratory, a physiological, a pathological, and a pharmacological institute.

UNIVERSITY OF GÖTTINGEN.

A DEGREE in Medicine, Surgery, and Obstetrics is granted under the following conditions.

1. A written essay must be sent in on any medical subject chosen by the candidate, on the result of which depends the entrance to the examination. 2. If the essay be considered satisfactory, the student is admitted to a *vivâ voce* examination, which lasts a few hours, and is always held in German or Latin, at the option of the candidate. 3. A fee of 439 *marks* (21*l.* 19*s.*) must be paid to the Medical Faculty prior to examination. 4. The subjects of examination are Anatomy and Morbid Anatomy, Physiology, Pharmacology, General Pathology and Medicine, Surgical Pathology and Surgery, Toxicology, Medical Jurisprudence, and Obstetrics.

If the candidate be successful, he receives a diploma, and promises to hold his academical honour with dignity.

The Medical Faculty of this University consists of the following professors, with private teachers. *Ordinary Professors:* J. Henle, Anatomy; F. Wöhler, Chemistry; G. Meissner, Physiology; H. Schwartz, Midwifery and Diseases of Women; L. Meyer, Psychological Medicine; Th. Leber, Ophthalmic Surgery; W. Ebstein, Medicine; W. Marmé, Materia Medica; F. König, Surgery; J. Orth, Pathology; W. Baum; *Extraordinary Professors:* H. Eichhorst, Medicine and Diseases of Children; C. F. Lohmeyer, Surgery; J. Rosenbach, Surgery; W. Krause, Physiology; E. F. W. Herbst, Physiology; T. Husemann, Materia Medica and Toxicology; K. Flugge, Physiology. In the Philosophical Faculty instruction is given by—*Ordinary Professors:*—Voigt, Physics; J. Reinke, Botany; F. Ehlers, Zoology; the Count of Solms-Laubach, Botany; H. Hübner, Chemistry. *Extraordinary Professors:* C. Boedecker, Pharmacy and Physiological Chemistry; L. von Uslar, Organic and Pharmaceutical Chemistry; E. Riecke, Experimental Physics; H. J. Esser, Veterinary Medicine; J. Post, Chemistry.

The following institutions are connected with the Medical Faculty: institutions for teaching animal and vegetable physiology and pharmacology, and pathology; the Ernst-August Hospital, with medical, surgical, and ophthalmic clinics; a lying-in hospital; a psychiatric clinic in the Lunatic Asylum; a chemical laboratory; and a veterinary institute.

UNIVERSITY OF GREIFSWALD.

THE Medical Faculty of this University consists of the following professors, with teachers. *Ordinary Professors:* J. Budge, Anatomy; H. C. A. Pernice, Midwifery and Diseases of Women; F. Grohé, Pathological Anatomy; F. Mosler, Medicine; P. Vogt, Surgery; L. Landois, Physiology; R. Schirmer, Ophthalmic Surgery; H. Schulz, Materia Medica. *Extraordinary Professors:* C. Eichstedt, Midwifery, Diseases of the Skin, and Syphilis; W. Häckermann, Forensic Medicine and Hygiene; R. Arndt, Psychology and Nervous Diseases; P. Krabler, Diseases of Children; F. Sommer, Anatomy. Instruction is given in the Philosophical Faculty by—*Ordinary Professors:* A. H. A. J. Münter, Botany; H. Limpricht, Chemistry; H. Schwanert, Chemistry and Pharmacy; A. Gerstäcker, Comparative Anatomy and Zoology. *Extraordinary Professor:* F. Baumstark, Chemistry.

The University Hospital contains medical, surgical, ophthalmic, and obstetric clinics.

UNIVERSITY OF HALLE.

THE following are the regulations for the medical degree.

1. Application for admission to the examinations must be made to the Dean, and at the same time must be presented:—(*a*) *curriculum vitæ*; (*b*) certificate of maturity from a gymnasium; (*c*) certificate of having passed a *tentamen physicum* at least two years previously; (*d*) certificates of leaving, from the Universities, over at least eight medical scholastic half years. Whoever is unable to present these certificates complete, and in the manner specified, must obtain a dispensation from the Chief Manager. 2. On making application, 360 *marks* must be paid to the Dean for the examinations and the promotion, besides which, 12 *marks* must be paid before the promotion to the Secretary of the University. 3. The examinations are held on two consecutive days, by the regular professors of the Faculty, on each of which days the result of the examination is made known to the candidate. 4. After passing his examination, the can-

didate must compose a scientific treatise on any subject he pleases in medical science, and deliver it to the Dean, together with the theses, to be publicly discussed, and the *curriculum vitæ* for examination and approval; the same when printed must fill at least two quires. The candidate must bear the cost of printing both the treatise and the diploma; but the diploma must be laid before the Dean for approval before being printed. Of the treatise, 172 copies must be delivered to the Secretary of the University at least three days before the promotion, and 40 copies of the diploma; when the Secretary will give a receipt in the name of the Dean, and also for the 12 *marks* mentioned under No. 2. 5. The candidates have to request all the examiners personally to be present at the examination, likewise the members of the Faculty, when handing over the printed treatise for promotion. 6. In the application for promotion, the candidate solicits from the Dean, in a few preliminary words, permission to defend his treatise and the theses; and this takes place, then, against two previously appointed opponents; after which, those present are also called upon to join in the discussion. After the discussion is ended, the candidate begs the Dean to grant him the degree of Doctor; and this is done by administering the doctoral oath, and delivering the diploma. 7. Whoever fails to pass the examination, which includes all branches of medicine and surgery, will receive back from the fees paid 40½ *marks;* the rest goes to the Faculty. 8. The time for taking the degree is left to the candidate. He must not, however, exceed one year from the time of passing the examination to the taking of the degree, or else he will have to submit to re-examination, and must pay over again all the fees.

The following professors, with several private teachers, constitute the Medical Faculty of this University. *Ordinary Professors:* L. Krahmer, Materia Medica and Forensic Medicine; Th. Weber, Medicine; R. Olshausen, Obstetrics and Gynæcology; Th. Ackerman, Pathology; H. Welcker, Anatomy; R. Volkmann, Surgery; J. Bernstein, Physiology; A. Gräfe, Ophthalmic Surgery; E. Hitzig, Psychological Medicine; K. J. Eberth, Histology. *Extraordinary Professors:* H. Schwartze, Diseases of the Ear; E. Kohlschütter, Medicine; E. Harnack, Animal Chemistry and Biology; B. Solger, Anatomy; A. Seligmüller, Medicine. In the Philosophical Faculty, instruction in Sciences connected with Medicine is given by—*Ordinary Professors:* G. Kraus, Botany; J. Vollard, Chemistry; H. Grenacher, Zoology. *Extraordinary Professors:* B. Rathke, Chemistry; E. Schmidt, Pharmaceutical Chemistry; A. Oberbeck, Physics.

The University library contains 100,000 volumes. Connected with the University are a chemical laboratory, a botanical garden, a zoological museum, an anatomical theatre and zootomical museum, a lying-in institution, a medico-chirurgical hospital, and physiological, pathological, and pharmaceutical laboratories.

UNIVERSITY OF HEIDELBERG.

THE following are the regulations to be observed for graduation in medicine in this University.

1. In applying for examination for the degree of Doctor, no evidence of previous study is required. 2. The same demands are made of all candidates; the only difference is that the oral examination is shortened if evidence be produced that the candidate has undergone, in the German empire, the *Staats-examen* for licence to practise. 3. The subjects of examination are (1) Anatomy; (2) Physiology; (3) Pathological Anatomy; (4) Materia Medica (Pharmacognostics, Pharmacodynamics, and Toxicology); (5) Medicine; (6) Surgery; (7) Midwifery; (8) Ophthalmic Surgery. 4. A Candidate may select one of these as the principal subject of his examination. All the other subjects then become secondary. 5. The examination is oral and written. The oral examination can only be conducted in the German language. 6. The written part of the examination consists of a medical dissertation in German or Latin, which must be given in before the oral examination. The Dean of the Faculty of Medicine delivers the dissertation (or a scientific publication by the candidate, which may be substituted for it) to a reporter for his opinion. The reporter is authorised to hold a conversation with the candidate on the subject treated of in the work. In voting on the dissertation, the question is put whether it shall be allowed to be printed. If it be printed, the names of the Dean for the time being, and of the reporter, must appear on the title-page. 7. The oral examination comprises the principal subject chosen by the candidate, and a certain number of the secondary subjects. The number and selection of the secondary subjects vary, according as the state-examination has or has not been passed. If proof be given that a state-examination has been passed in the German Empire, the candidate is examined in the principal subject, and in three of the secondary subjects, selected by himself. If there be no proof of a state-examination, he is examined in five secondary subjects. Of these, three are fixed—Anatomy, Physiology, and Pathological Anatomy; the other two may be chosen by the candidate. But if one of the three fixed subjects be chosen by the candidate as the principal subject, its place as a secondary subject is taken by another, selected by the candidate. 8. The duration of the oral examination depends on the number of subjects. The candidate is examined on the principal subject for thirty minutes, on each secondary one for fifteen or twenty minutes, according to the judgment of the examiners. 9. On the result of the entire examination, three notes are granted. The first (*summâ cum laude*) can only be granted when the dissertation has received the *imprimatur* of the Faculty. Even when the *imprimatur* has been received, the result of the oral examination may be such as to entitle the candidate to the second vote (*insigni cum laude*) or to the third (*cum laude*). 10. No oath is administered. When the diploma is delivered to the candidate by the Dean, he has to give his hand in promise that he will bear his academical dignity with honour. 11. The cost of the examination, exclusive of that of the diploma, amounts in all to 444 *marks* (about 22*l.* 5*s.*), which must be paid before the commencement of the examination. Of this sum, if the oral examination be not passed, 179 *marks* (about 9*l.*) are returned. 12. The diploma contains a record of the principal subject, the vote on the whole examination, and the judgment on the dissertation.

The Medical Faculty consist of the following professors, with several teachers. *Ordinary Professors:* F. Kehrer, Midwifery; W. Delffs, Chemistry; C. Gegenbaur, Human and Comparative Anatomy; W. Kühne, Physiology and Histology; O. Becker, Ophthalmic Surgery; Th. von Dusch, Medicine; W.

Erb, Medicine; J. Arnold, Pathology; V. Czerny, Surgery; C. Fürstner, Psychological Medicine. *Honorary Professor:* A. Nuhn, Human and Comparative Anatomy. *Extraordinary Professors:* H. Oppenheimer, Materia Medica; S. Moos, Diseases of the Ears; F. Knauff, Forensic Medicine and Hygiene; H. Lossen, Surgery; A. Weil, Medicine and Diseases of the Skin, and Syphilis; R. Thoma, Pathological Anatomy; H. Braun, Surgery; F. Schultze, Diseases of the Nervous System; A. Jurasz, Diseases of the Throat. In the Philosophical Faculty, instruction in subjects connected with medicine is given by—*Ordinary Professors:* R. Bunsen, Chemistry; H. Kopp, Chemistry; G. Quincke, Experimental Physics; O. Bütschli, Zoology; E. Pfitzer, Botany. *Extraordinary Professors:* A. Bornträger, Pharmacy; A. Horstmann, Chemistry; R. Kossmann, Zoology.

In connection with the University are a hospital, with medical, surgical, and ophthalmic clinics, an institution for diseases of the ear, a lying-in institution, anatomical, pathological, physiological, and zoological institutes, two chemical laboratories, and a botanical garden.

UNIVERSITY OF JENA.

THE Faculty of Medicine of this University grants a degree in Medicine, Surgery, and Obstetrics, the conditions for which are as follow:

1. Certificate to be given as to the extent of medical studies, and the period of time which has elapsed since their completion (at least six terms). 2. Satisfactory evidence as to character, from the neighbouring head office of police. 3. A written essay upon any subject of medical science, in German or Latin. The same composition may be given up, to be printed afterwards in the form of a dissertation. 4. Matriculation into this University. This is done when, upon fulfilment of the other conditions, the candidate himself makes his appearance. 5. Payment of examination and promotion fees must be made to the amount of 141 *thalers* (about 22*l*.). In case the examination is not passed, the promotion fees and 52 *thalers* are returned. The examination will be held in the German language only. It comprises all branches of medicine, viz.: Anatomy, Physiology, Histology, General Pathology, Pathological Anatomy, Special Pathology, Medicine, Therapeutics, Surgery, Obstetrics, &c. When the examination is passed, the student has to give in his dissertation, the subject of which he chooses for himself. The Faculty examines the work to see whether it is worth publication. A dispensation from the Latin or German disputation may be granted, when the examination is very satisfactorily passed. After the essay is printed, and also when the public disputation is over, the making out of the medical diploma takes place. The degree of doctor will only be granted in this University by the Faculty upon fulfilment of the above-named conditions.

The Medical Faculty of this University is constituted as follows. *Ordinary Professors:* F. Ried, Surgery; B. Schultze, Obstetrics; W. Müller, Pathology; W. Preyer, Physiology; O. Hertwig, Anatomy; (vacant), Medicine. *Honorary Professor:* M. Seidel, Materia Medica. *Extraordinary Professors:* L. Schillbach, Diseases of the Eye and Ear; C. Frommann, Physiology and Histology; C. Bardeleben, Anatomy; P. Fürbringer, Diseases of the Skin, and Syphilis; O. Küstner, Gynæcology; H. Kuhnt, Ophthalmic Surgery. Subjects connected with Medicine are also taught in the Philosophical Faculty by—*Ordinary Professors:* G. A. Geuther, Chemistry; E. Häckel, Zoology. *Extraordinary Professors:* E. Reichardt, Chemistry; E. Hallier, Botany; R. Hertwig, Zoology; H. Gutzeit, Chemistry and Pharmacy.

Connected with the University are the Grand-Ducal hospital, lying-in institution, and lunatic asylum; anatomical, zoological, physiological, pathological, and chemical laboratories and museums, &c.

UNIVERSITY OF KIEL.

THE following are the conditions for obtaining the medical degree: 1. The presentation, on application, of (*a*) a *curriculum vitæ*; (*b*) certificate of medical studies; (*c*) a scientific treatise; 2. A written examination; 3. A verbal examination before the Faculty; 4. Payment of 360 *marks*.

In this University the Medical Faculty consists of the following professors, with five private teachers. *Ordinary Professors:* C. C. T. Litzmann, Obstetrics and Gynæcology; F. Esmarch, Surgery; H. Quincke, Medicine; V. Hensen, Physiology; A. Heller, Pathology; C. Völckers, Diseases of the Eye; W. Flemming, Anatomy. *Extraordinary Professors:* J. Bockendahl, Forensic Medicine; G. J. F. Edlefsen, Medicine; F. Petersen, Surgery; A. Pansch, Anatomy; F. A. Falck, Materia Medica. Instruction is also given in the Philosophical Faculty by *Ordinary Professors:* C. Himly, Chemistry; K. Möbius, Zoology; A. Engler, Botany; A. Ladenburg, Chemistry.

There are a medico-chirurgical hospital, containing medical, surgical, and ophthalmic clinics, a lying-in institution, and laboratories and museums in connection with the several subjects taught.

UNIVERSITY OF KÖNIGSBERG.

THE Medical Faculty of this University consists of the following professors, with several private teachers. *Ordinary Professors:* W. von Wittich, Physiology; R. Dohrn, Obstetrics and Gynæcology; (vacant), Anatomy; E. Neumann, Pathology; C. Schönborn, Surgery; B. Naunyn, Medicine; J. Jacobson, Ophthalmic Surgery; M. Jaffe, Medical Chemistry. *Extraordinary Professors:* H. Bohn, Diseases of the Skin; A. W. Grünhagen, Histology; S. Samuel, Therapeutics; S. Pincus, Forensic Medicine; E. Berthold, Diseases of the Eye and Ear; F. R. A. Schneider, Surgery and Military Surgery; B. A. Benecke, Anatomy; E. Burow, Surgery; J. Caspary, Diseases of the Skin and Syphilis; P. Baumgarten, Pathology; J. Schreiber. Lectures are also given in the Philosophical Faculty by—*Ordinary Professors:* R. Caspary, Botany; H. Spirgatis, H. Ritthausen, and W. Lossen, Chemistry.

Connected with the University are anatomical, pathological, and physiological institutions, medical, surgical, obstetrical, and ophthalmic clinics; chemical and pharmaceutical laboratories, &c.

UNIVERSITY OF LEIPZIG.

THE Medical Faculty of this University consists of the following professors and a number of private teachers. *Ordinary Professors:* J. Radius, Hygiene and Pharmacology; F. Hofmann, Hygiene; E. Wagner, Medicine; C. S. F. Credé, Midwifery; J. Cohnheim, Pathological Anatomy; C. F.

W. Ludwig, Physiology; C. Thiersch, Surgery; E. A. Coccius, Ophthalmic Surgery; W. His, Anatomy; C. W. Braune, Topographical Anatomy; A. Strümpell, Medicine. *Extraordinary Professors:* H. Sonnenkalb, Forensic Medicine and Hygiene; J. V. Carus, Zoology and Comparative Anatomy; A. Winter, Materia Medica; C. Hennig, Obstetrics; C. H. Reclam, Forensic Medicine and Hygiene; B. G. Schmidt, Surgery; E. F. Wenzel, Anatomy and Histology; J. O. L. Heubner, Medicine; E. R. Hagen, Otology, &c.; A. R. Brenner, Diseases of the Nervous System; P. E. Flechsig, Anatomy and Histology; E. Drechsel, Physiology; C. Weigert, Medicine; A. Rauber, Anatomy. Instruction is also given in the Philosophical Faculty by—*Ordinary Professors:* W. Hankel, Physics; H. Kolbe, Chemistry; A. Schenck, Botany; R. Leuckart, Zoology; G. Wiedemann, Chemistry. *Extraordinary Professors:* H. Hirzel, Pharmacy; F. A. Zürn, Veterinary Medicine; A. Weddige, Chemistry.

In connection with the University are chemical, physico-chemical, and pathologico-chemical laboratories; a zoological institute, under the direction of Professor Leuckhardt; an anatomical institute, under Professor His; a physiological institute, under Professor Ludwig; and various clinics, &c.

UNIVERSITY OF MARBURG.

Any one wishing to proceed to the medical degree at this University must send in to the Dean of the Faculty of Medicine the following:—

1. A *curriculum vitæ;* 2. A certificate of scientific studies; 3. A certificate of at least four years' study at a recognised University or Medical College; 4. A dissertation in the German language. If these be considered satisfactory by the Faculty, the candidate is then admitted to a *vivâ voce* examination in the German language. If the examination be satisfactorily passed, the dissertation must be printed at the candidate's expense, and publicly defended. Three or four printed theses must also be sent in. The cost for the diploma is 330 *marks* (16*l.* 10*s.*).

The following are the professors in the Medical Faculty of this University. *Ordinary Professors:* H. Nasse, Physiology; W. Roser, Surgery; R. Böhm, Medicine; P. Ahlfeld, Midwifery; N. Lieberkühn, Anatomy; F. Marchand, Pathological Anatomy and General Pathology; E. Mannkopff, Pathology and Therapeutics; H. Schmidt-Rimpler, Ophthalmology; H. Kramer, Psychology; E. E. Külz, Physiology. *Extraordinary Professors:* G. Wagener, Anatomy; H. Horstmann, Forensic Medicine; H. Lahs, Midwifery. Lectures are also given in the Physiological Faculty by—*Ordinary Professors:* C. Zwenger, Pharmaceutical Chemistry; A. Wiegand, Botany; R. Greeff, Zoology; T. Zincke, Chemistry.

A hospital and various laboratories, &c., for practical instruction are connected with the University.

UNIVERSITY OF MUNICH.

In granting medical degrees at this University a distinction is made between those candidates who have already passed a satisfactory public examination as Physicians before a German Commission of Examiners, and those who have not—be they natives or foreigners. From those candidates who have already passed the satisfactory German examination nothing further is required in order to admit them to compete for the doctorate than the certificate of having passed such examination. The Faculty requires, however, the presentation of a dissertation, written in either the Latin or German language. This is delivered by the Dean to one of the members of the Faculty for examination and judgment, and with his judgment it is circulated amongst the Faculty. If the Faculty approve of it, then it is printed at the expense of the candidate for the members of the Faculty.

Candidates, however, who have not passed the German 'Approbation-Examination' for Physicians, must, before being admitted to the doctorate examination, present to the Medical Faculty the following: 1. A gymnasial certificate, or at least such certificate as shows that the candidate has enjoyed a regular education; 2. Certificates of at least four years' attendance at a university or medical institution, and of attendance at the lectures on the principal branches of natural science and medicine; 3. Clinical certificates of the treatment of an internal surgical and eye complaint, and also assistance at a birth; 4. A certificate of the performance of an operation on the dead body, and the application of a bandage; 5. The candidate must then pass a two hours' verbal examination (in the German language) in the following branches, viz.: Anatomy, Physiology, General Pathology and Pathological Anatomy, Materia Medica, Therapeutics, Surgery, Midwifery, Hygiene, Diseases of the Eye; 6. The candidate has also to give in a dissertation, which must be examined by a member of the Faculty to see whether it is worthy of being printed. The printing may be dispensed with at the request of the candidate; 7. The fees for examination and promotion amount, for both kinds of candidates, to 100 *thalers*, 300 *marks*, or 175 *florins* (15*l.*).

The professorial staff of the Medical Faculty of this University is constituted as follows. *Ordinary Professors:* F. X. von Gietl, Medicine; F. C. von Rothmund, Surgery and Clinical Surgery; C. T. von Siebold, Zoology and Comparative Anatomy; F. Seitz, Materia Medica; L. A. Buchner, Pharmacy; M. von Pettenkofer, Hygiene; F. C. L. Winckel, Midwifery; J. N. von Nussbaum, Surgery and Clinical Surgery; A. von Rothmund, Ophthalmic Surgery; C. von Voit, Physiology; H. von Ziemssen, Special Pathology and Therapeutics; B. von Gudden, Psychology; C. Kupffer, Anatomy; N. Rüdinger, Anatomy; O. Bollinger, Pathology and Hygiene. *Extraordinary Professors:* H. Ranke, Medicine; J. Amann, Midwifery; A. Martin, State Medicine; J. Oertel, Laryngoscopy; H. von Bock, Toxicology; J. Bauer, Medicine. Instruction is also given in the Philosophical Faculty by—*Ordinary Professors:* G. von Jolly, Experimental Physics; C. T. von Siebold, Comparative Anatomy; C. W. von Nägeli, Botany; L. Radlkofer, Botany; A. Bäyer, Chemistry. *Extraordinary Professors:* J. Ranke, Physiology; E. Fischer, Chemistry.

The University, which is situated in the Ludwigstrasse, contains a library consisting of 500,000 volumes. The chemical laboratory for hygiene is under the direction of Professor von Pettenkofer.

UNIVERSITY OF ROSTOCK.

Whoever wishes to graduate as 'Medicinæ, Chirurgiæ, et Artis Obstetriciæ Doctor' at this University, must apply to the Dean of the Medical Faculty, and deliver to him the following documents.

1. A certificate of having gone through the requisite course of studies in a university. 2. A certificate of examination, testifying to the ability of the candidate in the practice of medicine. 3. A treatise on any subject appertaining to medical science, composed by the candidate himself. A fee of 350 *marks* must be paid to the Faculty at the same time, of which two-thirds will be returned provided the treatise is not deemed satisfactory. The proof of having passed a satisfactory examination in Germany is, under the circumstances, satisfactory. If, however, this document should not appear satisfactory, or cannot be presented at all, the Faculty require that the candidate be subjected to an examination by the Faculty which shall pretty nearly correspond to the German States' Examination. For this examination an additional sum of 200 *marks* must be paid to the Faculty. Only for special cases does the Faculty reserve to itself a special form of examination.

The inaugural dissertation must be the candidate's own, and he must append to his treatise a written declaration to that effect. It is not, however, required that the work be composed entirely without assistance; but in this case the literary resources, and also the name of him or them from whom he has received help, must be clearly and distinctly stated. Those essays are considered the best which contribute most to medical or scientific knowledge. After the dissertation has been stamped by the Dean in the name of the Faculty, the same must be printed, at the expense of the author, and at least 125 copies delivered to the Faculty. When the candidate has satisfactorily fulfilled the above conditions, he must, introduce his essay, and read it publicly in the Aula, and defend it against any objections that may be made.

Promotions *in absentiâ* cannot be made, except only in the case of a *promotio honoris causâ* for distinguished service to medical science.

The Medical Faculty of this University consists of the following *Ordinary Professors:* T. Thierfelder, Special Pathology and Therapeutics; H. R. Aubert, Physiology; W. von Zehender, Ophthalmology; F. Schatz, Midwifery; F. S. Merkel, Anatomy: O. Nasse, Chemistry; O. W. Madelung, Surgery; A. Thierfelder, Pathological Anatomy. *Extraordinary Professor:* J. Uffelmann, Medicine. In the Philosophical Faculty, lectures on subjects connected with medicine are delivered by—*Ordinary Professors:* J. Roeper, Botany; O. Jacobsen, Chemistry; A. Götte, Comparative Anatomy and Zoology; and L. Matthiessen, Experimental Physics.

UNIVERSITY OF STRASBURG.

THE following is an extract from the regulations of the University of Strasburg relative to Degrees in Medicine.

Any person desirous of obtaining the degree of Doctor of Medicine can only be admitted to graduation on fulfilling the following conditions. *a.* If he belong to the German Empire, he must have completed an academical four years' course of study of Medicine, or of the Natural Sciences. By an unanimous decision of the Faculty, one or two Sessions may be omitted. Foreigners desirous of graduating are not required to have passed through the four years' course if they produce proof of having received instructions equivalent to the course of study in the Medical Faculty of Germany. *b.* He must present a scientific essay (dissertation) composed by himself. *c.* He must undergo the Faculty examination. *d.* He must pay the prescribed fee of 240 *marks.* In his application for graduation, which must be addressed to the Dean, the candidate must produce the evidence referred to in *a*, and forward a scientific memoir in some department of medicine, with a written assurance that it is absolutely his own composition. If the dissertation receive the approval of the Faculty, the candidate is admitted to examination.

The examination is conducted by the ordinary professors, and consists, as a rule, of an oral theoretical examination in all important departments of medicine. If the candidate fail to give satisfaction in the oral examinations, he must, in order to obtain the degree of doctor, again undergo the examination after a time to be determined by the Faculty, but he is not required to present a second dissertation. In the case of candidates who have already passed the State examination a colloquy before three members of the Faculty may, by the unanimous decision of the Faculty, be substituted for the oral examination.

Degrees in Medicine are not conferred on absent candidates.

If the dissertation be rejected, the candidate receives the whole fee back. If the dissertation be approved, but the candidate fail in the examination, 90 marks are returned to him; but when he is again admitted to examination, only half that fee is required. After the Faculty examination has taken place, and the dissertation has been printed and published, the candidate is formally admitted to the degree of Doctor by he issuing of a printed diploma, the names of the successful candidates being announced. The candidate has to bear the expense of printing the dissertation and of the diploma. There is no public ceremony, and no oath is administered.

Matriculation takes place on the first four Wednesdays of the season, from twelve to one o'clock. After the end of these four weeks the rector can allow matriculation only on special grounds. Any one desirous of matriculating as a student, and attending the lectures and other instructions given in the University, must, on his arrival in Strasburg, communicate with the Secretary of the University in order to be inscribed. Other persons desirous of attending the lectures must obtain permission from the respective teachers, and must then at once communicate with the Secretary of the University.

The following are the professors and teachers of the University. *Ordinary Professors:* G. Schwalbe, Human Anatomy and Embryology; J. G. Jessel, Anatomy; T. L. Goltz, Physiology; F. Hoppe-Seyler, Physiological and Pathological Chemistry; O. Schmiedeberg, Pharmacology and Therapeutics; F. von Recklinghausen, Pathological Anatomy and Physiology, and Histology; A. Kussmaul, Medicine and Clinical Medicine; A. Lücke, Surgery and Clinical Surgery; W. A. Freund, Obstetrics and Gynæcology; F. Wieger, History of Medicine, Diseases of the Skin, and Syphilis; A. Aubenas, Obstetrics and Gynæcology; F. Jolly, Psychiatry; L. Laqueur, Diseases of the Eye. *Extraordinary Professors:* G. Kohts, Medicine and Diseases of Children; A. Kuhn, Diseases of the Ear; E. Fischer. There are also several *docents.* Instruction in subjects connected with Medical Science is also

given in the Faculty of Mathematics and Natural Science by the following—*Ordinary Professors:* O. Schmidt, Comparative Anatomy; A. de Bary, Botany; A. Kundt, Experimental Physics; R. Fittig; Experimental Chemistry. *Extraordinary Professors:* F. Rose, Practical Chemistry; C. F. Braun, Physics.

Connected with the University are institutions for the practical study of anatomy, experimental physiology, physiological chemistry, pathology, and pharmacology, and clinics for medicine, surgery, midwifery, mental diseases, diseases of the eye, and syphilis, and diseases of the skin.

UNIVERSITY OF TÜBINGEN.

The Faculty of Medicine here grants a degree in Medicine under the following conditions.

1. The candidate must send in with his application—*a.* A *curriculum vitæ*; *b.* A certificate of having gone through a thorough course of instruction at the Gymnasium or some equivalent institution; *c.* Proof of a sufficient study of medicine at a university, and certificates of having attended the lectures having reference to the subjects of examination. 2. The examination consists of a written and a subsequent verbal one. A legalised proof of having passed a satisfactory examination in medicine and surgery in a foreign country dispenses with the written examination, but not with the verbal one. In no case can a degree be granted *in absentiâ*. 3. In the written examination will be put one question in each of the following subjects: 1. Anatomy; 2. Physiology; 3. Materia Medica; 4. General Pathology and Therapeutics; 5. Two questions in Special Pathology and Therapeutics. In addition to which, if a Doctor's degree in Surgery be required, one question will be put on each of the following subjects: 1. General Surgery; 2. Special Surgery; 3. Surgical Operations; 4. Midwifery. 4. The fees amount to 300 *marks*, including the printing of the diploma, which fee must be paid on application. If the candidate be rejected at the written examination, and be not admitted to the verbal one, the whole of the fees will be returned. If he be rejected after the verbal one, only half will be returned. 5. The candidate must compose a dissertation under the presidency of a member of the Faculty, and get it printed; 250 copies are to be presented to the University. If, however, the essay be published either in a periodical or as a special pamphlet, 100 copies will suffice, but they must be provided with a special title-page. Only such candidates as have given numerous and satisfactory literary proofs of their capacity can be allowed to dispense with the composition.

The Medical Faculty of this University consists of the following professors, with private teachers. *Ordinary Professors:* P. Bruns, Surgery; K. von Vierordt, Physiology; J. von Säxinger, Midwifery; C. von Liebermeister, Medicine and Materia Medica; T. H. Jürgensen, Medicine and Diseases of Children; A. Nagel, Ophthalmology; P. J. W. Henke, Anatomy; E. Ziegler, Pathology. *Extraordinary Professors:* O. Oesterlen, Forensic Medicine and Hygiene. Lectures are also given on subjects connected with Medicine in the Faculty of Natural Science by—*Ordinary Professors:* F. von Reusch, Experimental Physics; T. Eimer, Zoology; C. G. Hüfner, Chemistry; L. Meyer, Chemistry; W. Pfeffer, Botany; and *Extraordinary Professor:* Hegelmaier, Botany.

A hospital and institutions for practical instruction are connected with this University.

UNIVERSITY OF WÜRZBURG.

Before being admitted to the examination for the Doctorate of Medicine, Surgery, and Widwifery, the candidate must pass the medical approbation examination, which consists in showing—by testimonials or certificates—that he has a good moral character, and that he has passed through four years' study at an University, six sessions of which must have been devoted to medical studies. Upon fulfilment of these conditions, the candidate will be admitted to a written and *vivâ voce* examination, before which, however, he must pay to the Faculty 300 *marks* (£15). The written examination consists in the composition of an essay on some subject in theoretical or practical medicine, which dissertation must be handed to the Dean, who will give it to one of the examining professors to report on. It is customary for the dissertation to be printed. If the decision of the reporter with regard to the theme be unfavourable, admission to the *vivâ voce* examination is denied, and another theme must be composed and handed in at a future time. Should the second theme, however, be deemed unsatisfactory, the candidate will not be allowed to reappear. He then receives back all his fees except 30 *marks*. If the dissertation be approved by the Faculty, the candidate is admitted to a *vivâ voce* examination, in the German language, which consists of the following subjects: Anatomy and Pathological Anatomy, Physiology, Pathology and Medicine, Special Therapeutics, Surgery, Obstetrics and Ophthalmology. A knowledge also of Psychology and State Medicine is required. After taking the examination oath, the result and standing of the examination is imparted to the candidate by the Dean—whether very good, good, or moderate.

When the candidate is unsuccessful at the *vivâ voce* examination, he receives back half the fees, and is allowed to present himself for examination again in six months' time by paying half the fees again. Only one more attempt is, however, allowed after the first rejection at the *vivâ voce* examination.

After successful examination, the candidate receives his diploma of doctor.

In this University, the Medical Faculty consists of the following professors, with several *docents*. *Ordinary Professors:* A. von Kölliker, Anatomy; F. W. Scanzoni von Lichtenfels, Midwifery; H. Maas, Surgery and Clinical Surgery; A. Fick, Physiology; C. Gerhardt, Medicine and Clinical Medicine, and Diseases of Children; G. E. Rindfleisch, Pathological Anatomy, General Pathology, and History of Medicine; J. Michel, Ophthalmic Surgery; A. Geigel, Clinical Medicine and Hygiene; M. Rossbach, Materia Medica. *Extraordinary Professors:* A. F. von Troltsch, Aural Surgery; W. Reubold, Forensic Medicine. Lectures are also given in the Philosophical Faculty by—*Ordinary Professors:* J. Sachs, Botany; J. Wislicenus, Chemistry; C. Semper, Zoology; F. Kohbrausch, Experimental Physics; and—*Extraordinary Professor:* L. Medicus, Chemistry.

AUSTRO-HUNGARIAN EMPIRE.

GRADUATION IN MEDICINE.

THE Universities of the Austro-Hungarian Empire which possess Medical Faculties and grant degrees in medicine are: Agram (Croatia), Gratz (Styria), Innsbrück (Tyrol), Cracow, Lemberg (Galicia), Pesth (Hungary), Prague (Bohemia), and Vienna.

All the Universities are under Government control, and the degree of Doctor of Medicine obtained at any of them alone gives the right to practise medicine in the empire.

The course of study required of candidates for the degree of Doctor of Medicine in the Universities of the Austrian Empire extends over five years, or five winter and five summer terms or *semesters*. The following arrangement is recommended by the Government. (The first, third, fifth, seventh, and ninth are winter *semesters:* the others are summer *semesters.*) 1st *Semester:* Systematic Anatomy; Experimental Physics, Inorganic Chemistry; General Botany; Dissections. 2nd *Semester:* Systematic Anatomy (second part); Experimental Physics (second part); Organic Chemistry; Special Botany; Mineralogy; Practical Introduction to Chemical Analysis; Practical Introduction to the Use of the Microscope. 3rd *Semester:* Physiology; Histology; Medical Chemistry; Zoology; Dissections. 4th *Semester:* Physiology (second part); Embryology; Exercises in Physiology; in Histology; and in Medical Chemistry. 5th *Semester:* General Pathology and Therapeutics; Pharmacology; Pathological Anatomy; Pathological Histology; *Post mortem* Examinations; Practical Introduction to the Physical Examination of Patients. 6th *Semester:* Pathological Anatomy (second part); Special Pathology, Therapeutics, and Clinic of Internal Diseases; Special Surgical Pathology, Therapeutics, and Clinic; *Post mortem* Examinations; Exercises in Pathological Histology. 7th *Semester:* Special Pathology, Therapeutics, and Clinic of Internal Diseases; Special Surgical Pathology, Therapeutics, and Clinic; Diseases of the Eye; Exercises in Surgical Anatomy; (Operations). 8th *Semester:* Internal Diseases; Surgery or Diseases of the Eye; Surgical Operations; (Surgical Anatomy). 9th *Semester:* Internal Diseases; Surgery; Theory and Practice of Obstetrics and Gynæcology; Forensic Medicine; (Exercises in Obstetric Operations); Medico-Legal Exercises. 10th *Semester:* Clinics of Diseases of Children; of Diseases of the Skin; and of Syphilis; (Obstetrics and Gynæcology); Exercises in Obstetric Operations; (Medico-Legal Exercises). Of the subjects included in brackets, one course only is required, which may be attended in either a winter or a summer term, at the option of the student.

Candidates for the degree of Doctor of Medicine are required to undergo three examinations (*rigorosen*). Before being admitted, the candidate must produce (*a*) his certificate of birth or baptism, and evidence (*b*) of having received a sufficient preliminary education in one of the institutions of the countries comprised in the empire, or, if he do not belong to any of these, evidence of having matriculated as an ordinary student in a Faculty of Medicine; (*c*) evidence of having attended lectures in a medical school during at least four sessions, and of having dissected during two sessions; (*d*) of having passed, at one of the Universities of the empire, three examinations, in Botany, Zoology, and Mineralogy. Before being admitted to the second examination, he must produce evidence of having been engaged five years in professional study, and of having studied Clinical Medicine and Clinical Surgery, each during four sessions, and Clinical Ophthalmology and Clinical Midwifery, each during at least one session; and of having passed the first examination.

The first examination embraces Physics, Chemistry, Anatomy, and Physiology. There is a practical examination on Anatomy and Physiology, and a theoretical examination on all four subjects.

The second examination includes General Pathology and Therapeutics, Pathological Anatomy and Histology, Pharmacology (pharmacodynamics, toxicology, and prescribing), and the Pathology and Therapeutics of internal diseases. The candidate is examined practically in Pathological Anatomy (with preparations and on the dead body), and in Medicine (at the bedside); and theoretically in all the subjects.

The third examination embraces Surgery, Ophthalmic Surgery, Midwifery and Diseases of Women, and Forensic Medicine. The examinations in Surgery, Ophthalmic Surgery, and Midwifery, are practical; and there are theoretical examinations in all the subjects.

All these examinations must take place at the same University. In very exceptional circumstances only is a candidate allowed to pass the second or third examination at another University than that at which he has passed the first.

The examinations are public, and are conducted by a President, the regular examiners, extraordinary examiners when required by the number of candidates, the Government commissioner; and at the second and third there is a co-examiner appointed by the Government. Each member of the commission examines for a quarter of an hour.

A candidate is not admitted to the theoretical examination unless he has satisfied the examiners in the practical one. If he fail at the practical examination, he may present himself again at the end of six months; if again rejected, six months must elapse before he can be again examined. A candidate rejected at the theoretical examination by one examiner only may be readmitted to examination in the subject in which he is deficient, at the end of two months. If again rejected, he cannot be again examined in less than four months. If rejected at the theoretical examination by more than one examiner, he may re-appear a second and third time at intervals of six months. A rejected candidate can, however, be examined a third time, whether in practice or in theory, with the sanction of the Minister of Public Instruction, and the consent of the College of Professors; and if he then fail, he is debarred henceforth from obtaining a degree in medicine in any of the Universities of the empire.

The fee for the first examination is 55 florins, for the second 60 florins, and for the third 65 florins (Austrian). The promotion fees for the Doctorate amount to 60 Austrian florins. The total fee for the M.D. degree is about £23 of English money.

UNIVERSITY OF VIENNA.

IN this University, the Medical Faculty is constituted as follows. *Ordinary Professors:* E. von Brücke, Physiology; E. Albert, Practical and Clinical Surgery; C. Langer, Descriptive and

Topographic Anatomy; C. R. Braun von Fernwald, Theory and Practice of Midwifery; H. von Bamberger, Special Medical Pathology, Therapeutics, and Clinical Medicine; H. Kundrat, Pathological Anatomy; H. Nothnagel, Special Medical Pathology and Therapeutics, and Clinical Medicine; J. Späth, Theory and Practice of Midwifery; C. Stellwag von Carion, Ophthalmic Surgery; Th. Billroth, Practical and Clinical Surgery; G. Braun, Widwifery (for Midwives); E. Hofmann, Forensic Medicine; L. Neumann, Syphilology; C. Wedl, Histology; S. Stricker, Experimental and General Pathology and Therapeutics; T. Meynert, Psychiatry and Nervous Diseases; A. E. Vogl, Pharmacology and Pharmacognosy; E. Ludwig, Chemistry; M. Kaposi, Diseases of the Skin, and Syphilis. *Extraordinary Professors:* E. Jäger von Jaxthal, Ophthalmic Surgery; J. Seegen, Balneology; C. Cessner, Use of Instruments and Bandages; H. Zeissl, Syphilology; M. F. Röll, Contagious Diseases; L. Schlager, Psychiatry; F. Müller, Veterinary Medicine; L. Dittel, Surgery; H. Widerhofer, Diseases of Children; M. Liedesdorf, Psychiatry; M. Schwanda, Medical Physics; M. Benedikt, Electro-Therapeutics and Neuro-Pathology; S. Stern, Elementary Clinical Instruction; A. Politzer, Aural Surgery; J. Grüber, Aural Surgery; J. Weinlechner, Surgery; G. Lobel, Clinical Medicine; S. L. Schenk, Embryology; A. Drasche, Epidemiology; A. R. von Mosetig-Moorhof, Surgery; J. Nowaf, Hygiene; C. Stoerk, Laryngoscopy; L. von Schrotter, Diseases of the Chest and Larynx; H. Auspitz, Diseases of the Skin and Syphilis; F. Salzer, Surgery; S. Exner, Physiology; M. Rosenthal, Diseases of the Nervous System; C. Mayrhofer, Midwifery and Gynæcology: G. Wertheim, Diseases of the Skin and Syphilis; S. von Basch, Experimental Pathology; T. Puschmann, History of Medicine; J. Schnitzler, Medicine; R. Chrobak, Gynæcology; K. von Rokitansky, Pathology; L. Bandl, Obstetrics and Gynæcology; E. von Stoffella, Special Pathology and Therapeutics. The following private teachers have the title of professor: A. Reder, Syphilis and Diseases of the Skin; L. Mauthner, Ophthalmic Surgery; C. Bohm, Surgery; L. M. Politzer, Diseases of Children; W. Winternitz, Medicine. There are also between eighty and ninety private teachers, adjuncts, and assistants. In the Philosophical Faculty, lectures on subjects connected with medicine are given by—*Ordinary Professors:* K. von Brühl, Zoology; L. K. Schmarda, Zoology; K. Claus, Zoology and Comparative Anatomy; J. Stefan, Physics; V. von Lang, Physics; J. Loschmidt, Physics and Chemistry; J. Wiesner, Vegetable Anatomy and Physiology; A. Lieben, Chemistry; L. Barth von Barthenau, Chemistry; A. Korner von Marilaun, Botany; J. Bohm, Botany. *Extraordinary Professors:* H. W. Reichardt, Botany; F. Brauer, Chemistry; F. Exner, Physics; E. Lippmann, Chemistry; E. von Somaruga, Chemistry.

The General Hospital (*Allgemeine Krankenhaus*) is capable of accommodating about 2,000 patients. There are two medical clinics, under Professors Duchek and von Bamberger; two surgical clinics, one of which is under Professor Billroth; a clinic for Diseases of the Eye, under Professors von Arlt and Stellwag von Carion; and three clinics for Obstetrics—two for students being under the charge of Professors Carl Braun-Fernwald and Späth, and one for Midwives under Professor Gustav Braun. The clinics for Diseases of Women are under the charge of Professors Braun-Fernwald and Späth. There are also special clinics for Syphilis, under Professor Sigmund; for Laryngoscopy, under Professor Schrötter; for Diseases of Children, under Professor Widerhofer; for Psychology, under Professor Meynert; and for Otology, under Professor Grüber. A considerable portion of the school is also situated within the hospital; thus there are the Pathological Museum and *post mortem* room, under the direction of the professor of Pathology; the room for medico-legal necropsies, under Professor Hofmann; the Institute for Experimental Pathology, under the direction of Professor Stricker; and the Institute of Chemical Pathology, under Professor Ludwig. The Anatomical Institute and Dissecting Room, under the direction of Professor Langer; the Physiological Institute, where the Practical Physiology is carried on under Professor Brücke; the Materia Medica Museum, and the Medical Library are outside the hospital, in the Alsergrund.

The great clinics on medicine, surgery, &c., are conducted during the two sessions, from the middle of October to the middle of March, and from the middle of April to the end of July. They are under the immediate direction of the Professors of the Medical Faculty, and constitute, of course, an essential part of the curriculum of study for the ordinary Austrian student.

The special courses of instruction are most numerous during the regular academical sessions, but there are always some going on, even in August and September. They last usually from four to eight weeks. The courses are given for the most part by the private lecturers and the professors' assistants, and the material for them is derived from the wards of the clinical professors. For a six or eight weeks' course, the fee is usually from fifteen to twenty florins. The instruction in them is demonstrative or practical, involving the use of instruments and apparatus by the students themselves. Clinical instruction on children's diseases is given at the St. Anne's Hospital. This and many other of the courses are often attended by students for a second or even third time. A student desirous of occupying his time to the best advantage at Vienna must be prepared to expend a considerable sum in fees.

Vienna affords great opportunities for the study of pathological anatomy. There are separate *post mortem* rooms for the cases from the clinical wards, medico-legal cases, and the ordinary cases. At the two former, the clinical professor or assistant is usually in attendance. The examinations go on all the morning, there being sometimes as many as a dozen in one day.

Besides the General Hospital, Vienna possesses the Wieden Hospital (600 beds), the Rudolf Institution for the Sick (*K. K. Krankenhaus Rudolfstiftung*) (860 beds), the Lunatic Asylum, the General Polyclinic or Dispensary, the Lying-in Hospital, the Leopoldstädt Children's Hospital (90 beds), the Crown Prince Rudolf Children's Hospital (40 beds), St. Joseph's Children's Hospital at Wieden (100 beds), St. Anne's Children's Hospital (100 beds), &c.

UNIVERSITY OF BUDA-PESTH.

The Medical Faculty of this University consists of the following professors. *Ordinary Professors:* J. Lenhossek, Anatomy; G. Mihalkovics, Anatomy;

G. Scheuthauer, Pathological Anatomy; E. Jendrassik, Physiology; K. Balogh, Pharmacognosy and General Pathology; T. A. Lumnitzer, Surgery; T. Kézmarszky, Obstetrics; J. Wagner and F. Koranyi, Medicine and Clinical Medicine; J. Kovacs, Surgery; W. Schulek, Ophthalmic Surgery; A. Ajtai, Forensic Medicine; J. Fodor, Hygiene; J. Bókai, Diseases of Children; T. Margó, Histology; A. Török, Anthropology; A. Hógyes, General and Experimental Pathology. *Extraordinary Professors:* L. Gebhardt, Diseases of the Chest; E. Poor, Diseases of the Skin; E. Navratil, Rhinoscopy and Laryngoscopy; T. Bakody, P. Plósz, Physiological and Pathological Chemistry; D. Nedelka, Dental Surgery; J. Böke, Aural Surgery; E. Schwimmer, Diseases of the Skin and Syphilis; C. Laufenauer, Psychiatry; B. Stiller; G. Antal. There are several *docents.*

UNIVERSITY OF CRACOW.

THE Medical Faculty of this University consists of the following professors, with several *docents. Ordinary Professors:* E. Korczynski, Special Pathology and Therapeutics; — Rydygier, Surgery; J. Mikulicz, Surgery; G. Biotrowsky, Physiology and Histology; L. Teichmann, Descriptive Anatomy; M. Madurowicz von Jelita, Midwifery and Gynæcology; S. Janikowski, Forensic Medicine; L. Rydel, Ophthalmic Surgery; A. Stopczanski, Medical Chemistry; A. Adamkiewicz, General and Experimental Pathology; L. Blumenstock, Forensic and State Medicine; T. Browicz, Pathological Anatomy. *Extraordinary Professors:* A. Rosner, Diseases of the Skin and Syphilis; J. Oettinger, History of Medicine; M. L. Jakubowski, Diseases of Children; S. Domanski, Diseases of the Nervous System; — Obalinski, Surgery. There are also several *privat-docents* and assistants.

UNIVERSITY OF GRATZ.

IN this University, the Medical Faculty consists of the following professors, with about twelve *docents. Ordinary Professors:* A. Schauenstein, Forensic Medicine; E. Zuckerkandl, Descriptive and Topographical Anatomy; K. von Rzehaczek, Surgery; C. von Helly, Midwifery and Gynæcology; A. Rollett, Physiology and Histology; C. Blodig, Ophthalmic Surgery; O. Rembold, Medicine; J. Eppinger, Pathological Anatomy; C. von Schroff, Materia Medica and Therapeutics; C. B. Hoffmann, Medical Chemistry; V. von Ebner, Histology and Embryology; R. von Krafft-Ebing, Psychiatry. *Extraordinary Professors:* J. von Koch, Epidemic Diseases and Sanitary Police; E. Lipp, Diseases of the Skin; R. Klemensiewicz, Experimental and General Pathology; E. Börner, Obstetrics and Gynæcology.

Connected with the University are anatomical, physiological, pathological, and zoological institutes; medical, surgical, ophthalmic, obstetric, and gynæcological clinics; a laboratory for physiological and pathological chemistry; a chemical laboratory, &c. The hospitals are: the general hospital (700 beds); a lying-in hospital (120 beds); the town hospital (80 beds); a children's hospital (80 beds); and two infirmaries (245 beds).

UNIVERSITY OF INNSBRUCK.

THE following professors belong to the Medical Faculty. *Ordinary Professors:* M. Holl, Anatomy; F. Schauta, Obstetrics and Gynæcology; A. Tschurtschenthaler, General Pathology and Pharmacology; M. von Vintschgau, Physiology; F. Schott, Pathological Anatomy; C. Nicoladoni, Clinical Surgery; I. Schnabel, Ophthalmic Surgery; P. von Rokitansky, Medicine; W. Löbisch, Medical Chemistry. *Extraordinary Professors:* F. Wildner, Veterinary Medicine; J. Oellacher, Histology and Embryology; E. Lang, Syphilology and Dermatology; M. Dietl, Experimental Pathology.

The ordinary laboratories, clinics, and other means of practical instruction, are possessed by this University. There are a general hospital (204 beds) and a lying-in hospital (130 beds).

UNIVERSITY OF KLAUSENBURG.

THE Medical Faculty of this University consists of the following professors. *Ordinary Professors:* L. Davida, Anatomy; F. Klug, Physiology; A. Genersich, Pathology, (vacant) Pharmacy; S. Purjesz, Medicine; J. Brandt, Surgery; A. Szilágyi, Ophthalmic Surgery; J. Maizner, Obstetrics;—Bélky, Forensic Medicine; E. Geber, Diseases of the Skin and Syphilis; Rószahegyi, Hygiene. *Extraordinary Professor:* J. Ossikovsky, Chemistry and Toxicology.

UNIVERSITY OF PRAGUE.

THE Medical Faculty of this University consists of the following professors, with several *docents. Ordinary Professors:* Th. Eiselt and A. Pribram, Clinical Medicine; C. Gussenbauer, Surgery and General Surgery; J. Halla, Clinical Medicine; J. Streng, Midwifery; S. Strupi, Veterinary Medicine: J. Hasner von Artha, Ophthalmic Surgery; Ph. Knoll, Genera Pathology and Therapeutics; J. Maschka, State Medicine; E. Hering, Physiology; F. Weber von Ebenhof, Midwifery; C. H. Huppert, Medical Chemistry; A. Breisky, Midwifery; C. Toldt, Anatomy and Histology; J. Schötel, Ophthalmology; A. Spina, General and Experimental Pathology; *Extraordinary Professors:* J. Lerch, Forensic, Physiological, and Pathological Chemistry; G. Ritter von Rittershain, Diseases of Children; J. Kaulich, Diseases of Children; S. Mayer, Physiology; P. J. Pick, Skin Diseases and Syphilis; E. Zaufal, Aural Surgery; J. Fischel, Psychiatry; H. Chiari, Pathological Anatomy; W. Weiss, Surgery; C. Weil, Surgery; O. Kahler, Special Pathology and Therapeutics; F. Ganghofner, Special Pathology and Therapeutics; A. Ott, Special Pathology and Therapeutics; V. Janovsky, Dermatology and Syphilis;—Steffel, Anatomy; F. Hofmeister, Pharmacology and Pharmacognosy.

Connected with the University are an anatomical theatre; pathological, physiological, medico-chemical, and zoo-chemical institutes; medical, surgical, ophthalmic and dermatological clinics (one of the medical clinics being Bohemian); obstetric clinics for practitioners and for midwives, &c. The hospitals are: the General Hospital (948 beds), with the affiliated Hospital of the Bohemian sisters (220 beds); the Franz-Josef Children's Hospital (100 beds); the Israelite General Hospital (52 beds); the Hospital of the Brothers of Mercy (166 beds); the Hospital of the Elizabethan sisters (60 beds): the

Public Lunatic Asylum (1,348 beds); the Lying-in Hospital (322 beds for mothers and 176 for children).

SWITZERLAND.

GRADUATION IN MEDICINE.

In Switzerland, degrees in Medicine are granted in the Universities of Basle, Berne, Geneva, and Zürich. These degrees do not confer a licence to practice, for which a separate examination is required.

UNIVERSITY OF BASLE.

The degree of Doctor of Medicine, Surgery, and Midwifery, granted by this University, can only be obtained with the fulfilment of the following conditions.

1. Application for admission to the examination must be made to the Dean of the Faculty, in writing, enclosing: *a.* A *curriculum vitæ*; *b.* The academical matriculation of this place; *c.* Certificates of attendance at the academical lectures; *d.* A certificate of conduct from the High School in which the candidate has made his principal studies; *e.* A scientific treatise on any subject he chooses within the sphere of medical or natural science. 2. The examination is partly written (*tentamen*) and partly verbal (*rigorosum*). 3. The written examination consists in the answering of five questions having reference to Anatomy, Physiology, Pathological Anatomy and Pathological Physiology, Special Pathology and Therapeutics, and Surgery. 4. In case of rejection, the Faculty can appoint a time for a repetition of the examination, before which time the candidate cannot be re-examined. 5. The whole of the professors of the Faculty are invited to the verbal examination. The following are the subjects: Anatomy, Physiology, Pathological Anatomy and Physiology, Special Pathology and Therapeutics, Materia Medica, Surgery, Midwifery. 6. The examination by one examiner must not last longer than half an hour. 7. The degrees in which doctorships are granted are *Summâ cum laude*, *Insigni cum laude*, *Magnâ cum laude*, *Cum laude*, and *Rité's*. 8. In adjudicating on both the written and verbal examination, not only will the special knowledge in the respective branches be taken into consideration, but also the possession of a general scientific knowledge, and especially a comprehensive knowledge of Natural Science. 9. One hundred and twenty copies of the treatise must be delivered to the Faculty. 10. Promotions are not granted to applicants who have not passed the examinations here; but the Faculty can confer the degree of doctor on notable and eminent physicians *honoris causâ*. 11. The fees for the examination amount to 350 *francs*, viz., 100 for the *tentamen*, 200 for the *rigorosum*, and 50 for the promotion. 12. If the candidate be rejected after either examination, he forfeits the fees. The re-examination is free of charge.

The following are professors in the Medical Faculty of this University. *Ordinary Professors:* F. Miescher, senior, Pathological Anatomy; L. Rütimeyer, Comparative Anatomy and Zoology; A. Socin, Surgery and Clinical Surgery; H. Immermann, Medicine and Clinical Medicine; J. Kollmann, Anatomy; J. J. Fischoff, Obstetrics and Gynæcology; F. Miescher, junior, Physiology and Physical Chemistry; M. Roth, General Pathology and Pathological Anatomy; L. Wille, Psychiatry; H. Schiess, Ophthalmic Surgery. *Extraordinary Professors:* I. Hoppe, Therapeutics; E. Hagenbach-Burckhardt, Diseases of Children; R. Massini, Polyclinic and Prescribing; A. Burckhardt-Merian, Diseases of the Ear. There are also several private teachers. Lectures on subjects connected with Medicine are given in the Mathematical and Scientific Department of the Philosophical Faculty by—*Ordinary Professors:* E. Hagenbach-Bischoff, Experimental Physics; J. Piccard, Chemistry; and H. Vöchting, Botany. *Extraordinary Professor:* F. Krafft, Chemistry.

Connected with the University are the town hospital, where clinics for medicine, surgery, diseases of the eye, mental diseases, and midwifery are conducted; a hospital for diseases of children, and institutions for practical instruction in physiology, pathology, chemistry, and botany.

UNIVERSITY OF BERNE.

Before admission to examination for the Degree in Medicine and Surgery, the candidate must submit to the Faculty of Medicine a manuscript dissertation of scientific value. If this be accepted, he must, after producing evidence of general, scientific, and medical education, be examined *vivâ voce* in Anatomy, Physiology, Pathological Anatomy, Legal Medicine, General Pathology and Medicine, Surgical Pathology and Surgery, Materia Medica, and Ophthalmology.

The Medical Faculty of this University is constituted of the following professors and about thirteen *docents*. *Ordinary Professors:* P. Grützner, Physiology; C. Emmert, Forensic Medicine and Hygiene; C. Aeby, Human and Comparative Anatomy; T. Kocher, Surgery; T. Langhans, Pathological Anatomy; L. Lichtheim, Medicine; P. Müller, Midwifery; A. Vogt, Hygiene; E. Pflüger, Ophthalmic Surgery; M. von Nencki, Physiological Chemistry; B. Luchsinger, Experimental Pharmacology and Toxicology. *Extraordinary Professors*: E. Schärer, Psychiatry; R. Demme, Diseases of Children. There are several private teachers. Instruction in subjects connected with medicine is also given in the Mathematical and Scientific Department of the Philosophical Faculty by — *Ordinary Professors:* V. Schwarzenbach, Chemistry and Pharmacy; L. Fischer, Botany; A. Forster, Experimental Physics; T. Studer, Zoology.

Medical, surgical, obstetric, and special clinics and physiological, pathological and clinical laboratories, &c., are connected with the University.

UNIVERSITY OF GENEVA.

The University of Geneva grants the degree of Bachelor in Medical Science and Doctor of Medicine.

The following classes of persons are admitted as students in the Faculty of Medicine: 1. Bachelors in Letters; 2. Bachelors in Science; 3. Students who have attended during two years' lectures in the Section of Philosophy, and have undergone the examinations at the end of each year; 4. Pupils from the Classical Section of the Gymnasium, with certificates of Studies; 5. Swiss and strangers who give evidence of their studies by means of diplomas or certificates; 6. Persons who undergo satisfactory oral examinations in the subjects comprehended in the classical section of the Gymnasium; 7. Persons who furnish evidence that they have studied abroad, for a year at least in a corresponding faculty, may be inscribed in the Faculty of Medicine.

The course of study is as follows: *First Year: Winter Session:* Botany (first part); Physics (first part); Comparative Anatomy or Zoology; Inorganic Chemistry; Practical Comparative Anatomy. *Summer Session:* Botany (second part); Physics (second part); Comparative Anatomy or Zoology; Organic Chemistry (first part); Practical Chemistry; Botanical Excursions. *Second Year: Winter Session:* Descriptive Anatomy (first part); Physiology (first part); Organic Chemistry (second part); Dissections. *Summer Session:* Descriptive Anatomy (second part); Physiology (second part); Practical Chemistry and Practical Comparative Anatomy. (Students are recommended to attend, in addition, courses of other subjects, such as Astronomy, Geography, Physics, Mineralogy, Geology, &c.) *Third Year: Winter Session:* Descriptive Anatomy (third part); Normal Histology; Dissection. *Summer Session:* Regional Anatomy; Embryogeny. Supplementary courses on subjects of the preceding years, on which the student's knowledge is weak; Practical Physiology, Histology, Comparative Anatomy, and Chemistry. (The examination for Bachelor in Medical Sciences is now undergone.) *Fourth Year: Winter Session:* General Pathology; Internal Pathology; External Pathology; Dissection of Regions; Medical and Surgical Hospital Practice. *Summer Session:* Special Pathological Anatomy; Pathological Histology; Internal Pathology; External Pathology; Pharmacology; Medical and Surgical Hospital Practice; Exercises in the Laboratory of Pathological Histology. *Fifth Year: Winter Session:* Therapeutics; Hygiene; Legal Medicine; Theory of Obstetrics; Internal Pathology; External Pathology and Operations; Medical and Surgical Hospital Practice. *Summer Session:* Therapeutics; Legal Medicine; Internal Pathology; External Pathology; Medical and Surgical Hospital Practice; Operations. *Sixth Year: Winter and Summer Sessions:* Medical, Surgical, and Obstetrical Hospital Practice; Polyclinic; Ophthalmology; Psychology, &c. Repetitions preparatory to the examination for the Doctorate.

Persons who have satisfied the conditions laid down regarding the admission of students to the Faculty of Medicine may become candidates for the degree of Bachelor in Medical Science. Students who have undergone the recognised annual examinations in the Faculty of Medicine or of Sciences are exempt from oral examination in the subjects in which they have already been examined; provided that the examinations have been undergone not more than two years previously. Persons who produce diplomas or certificates giving evidence of their studies may be exempted from further examinations in the subjects in which they have already passed.

The following may become candidates for the degree of Doctor of Medicine: 1. Bachelors in Medical Science; 2. Persons who produce diplomas or certificates indicating that they have gone through an equivalent course of study. There are five examinations for the degree of Doctor of Medicine. *First Examination:* Human Anatomy and Histology; Physiology; Pathological Anatomy and General Pathology; a Necropsy, for which one hour is allowed; making an Anatomical Preparation, for which four hours are allowed. *Second Examination:* Medicine; Surgery; Operative Surgery; three Operations, and Application of Bandages. *Third Examination:* Hygiene; Therapeutics; Materia Medica and Pharmacology; Legal Medicine; a Medico-Legal Report on a real or supposed case, for which one hour is allowed. *Fourth Examination:* Clinical Examination of two medical and two surgical patients and of one case of labour (fifteen minutes being allowed for each case); Obstetrics, with operations on the mannikin; Discussion on each Clinical Case; Written Commentary on a Medical and a Surgical Case, two hours being allowed. *Fifth Examination:* Defence of a Printed Dissertation, in the French language, on a subject in medical science chosen by the candidate, and previously communicated to the Faculty.

The examinations are public. Those for the degree of Bachelor are held at the beginning and end of the University year, and in the interval between the sessions. Application for admission must be made to the Dean of Faculty of Medicine eight days before the day of examination. The examinations for the degree of Doctor take place, on the demand of the candidates, at times determined by the Faculty.

Before being admitted to examination, each candidate pays to the beadle 40 *francs;* and after the last examination, 100 *francs* must be paid to the Faculty of Medicine. In case of unsatisfactory examination, half of the first fee is returned, and the second is not paid.

UNIVERSITY OF ZURICH.

THE following are the regulations for the degree of Doctor of Medicine.

1. In order to obtain the degree of Doctor of Medicine, the candidate must send to the Dean a written memorial, accompanied by (*a*) evidence of attendance on lectures of Physics, Chemistry, Botany, Zoology, and Medical Subjects; (*b*) a dissertation on some subject in medical science, which, after approval, the candidate must have printed at his own expense.

2. The dissertation is delivered by the Dean for examination to the teacher of the subject of which it treats, or to the member of the Faculty at whose suggestion it has been composed. A recommendatory opinion of the first examiner decides its acceptance; in this case, his name appears on the title when it is printed. If the first opinion be doubtful or unfavourable, the thesis must be circulated among all the members of the Faculty, and is only accepted if two-thirds of them give their written votes in its favour.

3. When the dissertation is approved, the candidate is admitted to examination for the degree. The first part is written, and the candidate has to answer two questions drawn by lot, one on Anatomy and Physiology, the other on Pathology and Therapeutics, Surgery, or Midwifery. The answers are circulated among the members of the Faculty, who, after examining them, express in writing their determination (by a simple majority) whether the candidate shall be admitted to the second (oral) examination. The oral examination comprises the above-named subjects, and also General Anatomy, Pathological Anatomy, Materia Medica, and Ophthalmic Medicine. The votes of two-thirds of the members of the Faculty present is necessary for the passing of this examination.

4. After the examination has been passed and two hundred printed copies of the dissertation have been delivered, an official diploma is delivered in dupli-

cate to the candidate; all other ceremonies are dispensed with.

5. The fee consists of 350 *francs* (£14), and 15 *francs* to the bedell; it is paid before the oral examination (if this be remitted, before graduation). There is no additional fee if it be necessary to repeat the examination. The fee is not returned if the candidate be definitely rejected. The sum of 100 *francs* is remitted to candidates who already possess a recognised diploma; and, in such cases, the Faculty may, by a majority of two-thirds, agree to omit the oral examination.

6. The Faculty has the power of granting the diploma of doctor *honoris causâ* for distinguished services to medicine.

The Medical Faculty consists of the following Professors, with several *docents: Ordinary Professors:* H. Meyer, Human Anatomy; H. Frey, Comparative Anatomy, and Zoology; U. Krönlein, Surgery and Clinical Surgery; L. Hermann, Physiology; E. Klebs, Pathology; C. Huguenin, Medicine; F. Horner, Ophthalmic Surgery; O. Wyss, Diseases of Children; E. Frankenhäuser, Obstetrics and Gynæcology; A. Forel, Mental Diseases. *Extraordinary Professor:* H. Spöndly, Obstetric Medicine. Lectures are given in the Philosophical Faculty by *Ordinary Professors:* V. Merz, Chemistry; C. Cramer, Botany. *Extraordinary Professors:* J. R. Hofmeister, Experimental Physics; A. Dudelport, Chemistry. A Hospital, Lying-in Hospital, Children's Hospital, Pathological, Physiological, and Chemical Laboratories, are connected with the University.

THE LICENCE TO PRACTISE MEDICINE.

The following are the regulations for the licence to practise medicine in Switzerland. One licensing body examines at Geneva, and the other at Basle, Berne, and Zürich; both have the same regulations, and grant the licence to practise in all parts of the republic.

There are two examinations, preliminary and final. At Geneva, candidates are admitted to the preliminary examination on producing one of the following certificates: 1. Bachelier ès lettres; 2. Bachelier ès sciences; 3. Certificates of having passed two examinations in the Section of Philosophy at Geneva, and of having previously taken not less than twenty hours per week of studies; 4. Certificates of foreign studies at the Classical Section of the Gymnasium at Geneva; 5. Certificates of foreign studies equivalent to those named above. At the Amalgamated Board of Basle, Berne, and Zürich, candidates must produce evidence of complete and satisfactory studies in a public school; and of attendance on courses of Anatomy, Chemistry, Physics, Physiology, Practical Physiology, and six months' work in a Chemical Laboratory.

The examination is written and oral. The written part consists in producing two dissertations, one in Physics or Chemistry, the other in Anatomy or Physiology. The oral examination comprises Botany, Zoology, and Comparative Anatomy, Physics, Anatomy, and Physiology. At Geneva, candidates who have passed this examination are entitled to the designation of Bachelor of Medical Science.

In order to be admitted to the Final Examination for the Licence, candidates at Geneva must produce the certificate of Bachelor of Medical Science, and diplomas and certificates obtained after equivalent studies and examinations elsewhere. At the other Board, they must produce evidence of having passed the Preliminary Examination, and of having attended the following academic courses: Pathological Anatomy, Medicine, Practical Surgery and Bandaging (six months), Clinical Medicine and Clinical Surgery (each three sessions), Clinical Midwifery (two sessions), and Clinical Ophthalmic Medicine (one session).

The examination is written, practical, and oral. The written and practical part consists of—1. Examination of two Medical and two Surgical cases, and one of Midwifery, in the presence of two examiners; 2. Written opinion of one of two Medical and two Surgical cases; 3. A *post mortem* Examination, and opinion on the same; 4. Performance of two Operations: one the tying of an artery; the other according to the judgment of the examiners. The *vivâ voce* examination comprises: 1. General Pathology and Pathological Anatomy; 2. Special Pathology and Therapeutics; 3. Hygiene; 4. Pharmacology; 5. Surgery; 6. Topographical Anatomy, with Operations; 7. Ophthalmology; 8. Midwifery; 9. Ordinary Medical Practice.

DENMARK.

MEDICAL EDUCATION AND GRADUATION.

The study of Medicine at the University of Copenhagen is open to any student who has matriculated there or in foreign Universities; but only Danish subjects can obtain through examination the right to practise as medical men in the country.

The course of study is divided into three parts, namely, an introductory and two principal courses.

1. The introductory part consists of Botany (with especial regard to medicinal plants), Physics, Zoology, and Chemistry, theoretical and practical. The student has to submit to a preliminary examination on these subjects, and he can then enter as a pupil of one of the hospitals, where he must attend in a fixed order, and for a certain time, the various wards.

2. The second course comprises Anatomy, Physiology, Pharmacology, and Dissections, in which the student has to submit to an examination.

3. The final course consists of the following: Theoretical Surgery, Clinical Surgery, Operative Surgery, Theory of Medicine, Clinical Medicine, Pathological Anatomy, General Pathology, Forensic Medicine, and Obstetric Medicine. The student is examined on these subjects, and has to present a written thesis in Medicine, and one on Surgery. Before the student can pass his examination in this concluding course, he must present a certificate showing that he has gone through a half-yearly Clinical course of study under the chief Physicians at the hospital in Surgery, Medicine, Skin-Diseases, and Syphilis; and a shorter course at the Lying-in Institution in Obstetrics and Diseases of Children.

When these examinations are taken, the obligatory course of study is concluded by a residence at the Lying-in Institution, in order to obtain a practical knowledge of operations in cases of abnormal labours. The candidate who has passed his examination has now a right to practise medicine; but

the majority of candidates, before commencing to practise, endeavour to obtain an appointment at one of the hospitals, where they do duty during two years in a subordinate position. The entire course of study generally covers a period of from six to seven years.

In order to obtain the degree of Doctor of Medicine, the candidate has to prepare and submit to the Medical Faculty a treatise on a medical subject chosen by himself. If it be accepted by the Faculty, it is printed, and must be defended by the author publicly at the University, when at least two professors of the Medical Faculty appear as opponents. At most only about 10 per cent. of the medical men in Denmark endeavour to obtain this degree.

Among other means for aiding the labours of the student at the University are: The Botanical Gardens, a Zoological Museum, a Chemical Laboratory, a Collection of Physical Instruments, an Anatomical Museum, Dissecting Rooms (Physiological Collection and Laboratory), Pharmacological Collection, Collection of Surgical Instruments, Pathological Museum, the Copenhagen hospitals and the Lying-in Institution.

No entrance fees are demanded, and all the lectures are free to the students. The fees payable in respect of the several examinations amount in all to 60 *kroner* (about £3 10s.). The expenses in connection with obtaining the degree of Doctor of Medicine amount to 160 *kroner* (about £9).

Ten professors are attached to the University, namely: two in Medicine (Theoretical and Clinical), two in Surgery (Theoretical and Clinical), one in Pathological Anatomy, one in Obstetric Medicine and Diseases of Women and Children, one in Normal Anatomy, one in Physiology, one in Pharmacology and Materia Medica, one in Forensic Medicine, Hygiene, and Psychiatry, besides a permanent *docent* for Syphilis and Skin-Diseases.

In addition, lectures are given by the chief physicians attached to the various wards of the hospitals. Six of the professors of the University act as chief physicians in the Copenhagen hospitals.

SWEDEN.

MEDICAL EDUCATION.

THERE are three medical institutions in Sweden which confer licences to practise, viz., in the Universities of Upsala and Lund, and the Karolina Medico-Chirurgical Institute or Academy of Medicine in Stockholm. The Universities also confer the degree of Doctor of Medicine. A Medical School, with professors of the various branches of medical science, is connected with each.

The three institutions possess museums of normal and pathological anatomy, collections of chemical and pharmaceutical preparations and drugs, of surgical and obstetric instruments, physiological and pathological laboratories, &c.

Upsala possesses a hospital of 150 beds, which is entirely at the disposal of the University for the purpose of clinical teaching. The professors of medicine and surgery are *ex officio* medical officers of the hospital. Of the 150 beds, 100 or a few more are generally occupied, and are divided among medical, surgical, syphilitic, and obstetric cases.

In Lund, clinical instruction is given in the State Hospital and also in the University Hospital. In the latter there are 80 beds for medical and 80 for surgical cases, with 67 beds in the syphilitic and 8 in the obstetric departments. Of these, 40 beds in the medical and 40 in the surgical department are appropriated to clinical instruction. The obstetric department is also clinical. Clinical instruction in the diseases of the eye is also given.

In Stockholm, the pupils of the Karolina Institution receive clinical instruction at the Seraphim Hospital, the Children's and Lying-in Hospitals, the Town and State Lock Hospital, and the Lunatic Asylum at Konradsberg.

At the Seraphim Hospital, there are two medical and two surgical wards, under the charge of the ordinary and adjunct professors of medicine and surgery; and also a small gynæcological ward. It contains about 300 beds. An ophthalmic clinic is comprised in the surgical department; and the gynæcological clinic is attached to the medical.

The Lying-in Hospital or Obstetric Clinic can accommodate 30 patients; 20 beds are generally occupied. The professor of obstetrics in the Karolina Institution is *ex officio* chief physician.

The whole of the cases in the General Orphan Hospital are available for clinical instruction. The daily number of infants under one year old in the institution is from 100 to 200; sometimes it has been as high as 240. Of these 10 or 12 per cent. are generally on the sick-list. There are also about 80 children between one and fifteen years of age. In addition, from 1,600 to 2,000 are attended yearly as out-patients. Clinical instruction is given by the professor of diseases of children for eight months in the year, and four months by his adjunct.

The Town and State Lock Hospital has 180 beds, of which, on an average, 140 are occupied daily.

The Hospital for the Insane at Konradsberg has 220 beds, which are all available for clinical instruction. The professor of psychological medicine in the Karolina Institute is the chief physician.

LICENCE AND DEGREE IN MEDICINE.

No one can practise medicine in Sweden who has not obtained a licence from one of the three boards. The examinations for the licence consist of two parts. The first, for the Diploma of Candidate in Medicine (analogous to *Officier de Santé* in France), embraces Anatomy, Physiology, Medical Chemistry, Pharmacology, General Pathology, and History of Medicine. The candidate must, after passing the maturity examination on leaving a lyceum, have undergone a preliminary (medico-philosophical) examination in Botany, Zoology, Chemistry, and Physics, or have passed an examination as candidate in Philosophy. He must also have followed the practical laboratory courses of Chemistry, Physiology, and normal and morbid Anatomy. The examination for the licence comprises Medicine, Diseases of Children, Surgery, Obstetrics and Gynæcology, Pathological Anatomy, and Forensic Medicine. The candidate must have passed the examination for Candidate in Medicine, and must subsequently have attended the clinics of Medicine, Surgery, Obstetric Medicine, Diseases of Children, Syphilis, and Diseases of the Mind; and must have obtained a competent knowledge of Pharmacy. Attendance on oral lectures is not obligatory.

The degree of Doctor of Medicine is conferred by the Universities of Lund and Upsala on Licentiates of those Universities and of the Academy at Stockholm, on their presenting and defending a thesis. Attendance on lectures is obligatory for the Degree.

NORWAY.

MEDICAL EDUCATION.

In the University of Christiania, which is the only School of Medicine in Norway, lectures are delivered on the following subjects: Surgery, Ophthalmic Surgery, Physiology, Midwifery and Diseases of Women and Children, Descriptive Anatomy, Forensic Medicine, Pathology, and Therapeutics, Hygiene, Materia Medica, General Pathology and Pathological Anatomy, Surgical Pathology, Zoology, and Chemistry. Clinical instruction is given in the General Hospital on Surgery, Ophthalmic Surgery, Medicine, Diseases of the Skin and Syphilis; at the Lying-in and Children's Hospital, on the Diseases of Women and Children; at the Ganstead Asylum and at the Christiania Lunatic Ayslum, on Mental Diseases; and in the Town Hospital, on Chronic Diseases. Practical instruction is also given in Chemistry, Anatomy, and Botany.

LICENCES AND DEGREES.

Before entering on the study of medicine, the candidate has to pass two preliminary examinations: one in Arts, including Norwegian, Latin, Greek, French, German, English, Mathematics, Geography, and History; and one in Philosophy, including Geometry, Zoology, Botany, Astronomy, and the elements of Chemistry and Physics. Having passed these, he is admitted to matriculation, and afterwards studies Medicine nearly seven years.

There are three professional examinations. The first is held two and a half years after Matriculation, in Anatomy, Dissections, the use of the Microscope, Physiology, and Medical Physics. The second, held three and a half years after the first, includes Pharmacology, Toxicology, Medicine, Therapeutics, General Pathology, Pathological Anatomy, Surgery, Ophthalmic Surgery, Skin-Diseases, and Syphilis. The third examination, held about a year after the second, comprises Surgical Anatomy, Surgery, Operative Surgery, Obstetrics and Gynæcology, Diseases of Children, Forensic Medicine, Hygiene, and a Practical Examination in Medicine and Surgery. Practical work in the Hospital Wards is also obligatory.

On passing the final examination, the candidate becomes a physician, and obtains the right to practise. To obtain the degree of Doctor, he must pass a further examination, and defend a thesis.

HOLLAND.

DEGREE OF DOCTOR OF MEDICINE.

The degree of Doctor of Medicine is granted in Holland by the Universities of Groningen, Leyden, and Utrecht. Candidates for matriculation must produce evidence of gymnasial maturity, or undergo an equivalent examination. The course of study, including laboratory work and hospital practice, extends over six years. The final examination embraces all the subjects of medical study and the presentation and defence of a thesis. The degree does not grant a licence to practise.

STATE EXAMINATION.

This examination is conducted by eight professors, appointed annually and paid by the Government. The applicant for admission must be a Doctor of Medicine of some University, or possess a certificate of gymnasial maturity, or pass a preliminary literary and philosophical examination. The course of medical study must extend over at least six terms. The medical examination includes General and Special Pathology, Pharmacology, Morbid Anatomy, Medical Jurisprudence, Clinical Medicine, Clinical Surgery, and Obstetrics.

BELGIUM.

GRADUATION IN MEDICINE.

Degrees in Medicine are granted by the Universities of Brussels, Ghent, Liège, and Louvain. The Universities of Brussels and Louvain confer only scientific titles, without licence to practise; the degrees of the other two, when legalised by a Government commission, give the right of practice in Belgium.

UNIVERSITY OF BRUSSELS.

By the regulations of the University of Brussels, British and other medical practitioners, provided with proper qualifications, are admitted to examination before the Faculty for the degree of M.D. Residence is not required from such as are unable to absent themselves long by reason of their professional occupations.

Candidates must come in person and have their names inscribed in the books of the University. The fees are for inscription of name, 215 fr. (£8 12*s.*); for examination, 315 fr. (£12 12*s.*); for registration of diploma, 10 fr. (8*s.*); total, 540 fr. (£21 12*s.*). The examination consists of three parts. 1. General Therapeutics, including Pharmaco-dynamics (proportions of doses), Special Pathology and Therapeutics of Internal Diseases, General Pathology, and Pathological Anatomy. 2. Surgical Pathology, Ophthalmic Surgery, Theory of Midwifery, Public and Private Hygiene, Medical Jurisprudence. Examination at the Hospital of one or two patients under medical and Surgical Treatment; Examination in Midwifery, consisting in Obstetrical Operations on the *mannequin* (model of pelvis); Examination in Operative Surgery, consisting of some of the usual operations on the dead subject, such as amputation, ligature of an artery, &c.

Great importance is attached to practical knowledge, but candidates must also prove that they possess positive theoretical science.

Examinations take place at any time between October 15 and June 20, except during Christmas and Easter. They are *vivâ voce* and written, but candidates may be exempted from the former, and confine themselves to the written tests by paying an additional fee of £1 for each test. Candidates must exhibit their qualifications or diplomas.

The three examinations may be got through in a week, allowing a day's interval between each two tests. Saturday is the most eligible day for arriving for candidates for whom time is an object. The delay of a week is, however, never exceeded by more than a day or two.

The examinations are conducted in English through the medium of an interpreter, for such candidates as are not familiar with the French language.

Candidates who are not foreign qualified medical men must undergo the above-mentioned examinations, and also an examination in Anatomy, Physiology, and Histology, and must produce a degree in Arts or Science from a recognised University, or pass a preliminary examination; they must also have attended for five years the lectures in a medical college, or for three years the medical and surgical practice of a hospital.

UNIVERSITY OF GHENT.

A CANDIDATE for matriculation at this University must be a graduate in Arts of some University, or must pass a preliminary examination. He must then attend for two years a scientific course, including Psychology, Chemistry, Physics, Botany, Zoology, and Mineralogy, and at the end of the time pass an examination in these subjects. After this, he must attend lectures for five years, and hospital practice for three years.

The following examinations must be passed: 1. At the end of the second year of medical study, in Descriptive Anatomy, Histology, Physiology, Pharmacology, and Comparative Anatomy; 2. At the end of the fourth year, in General Pathology, Therapeutics, Theory and Practice of Medicine, and Morbid Anatomy; 3. At the end of the fifth year, in Theory and Practice of Surgery and in Obstetrics. The final examination for the Doctorate includes the general subjects of medical study, with practical examinations in Clinical Medicine, Clinical Surgery, Obstetrics, and Operative Surgery. Candidates who have attended the requisite lectures and hospital practice elsewhere are admitted to the final examination if they possess a degree in Arts or pass the matriculation examination of the Universlty.

UNIVERSITY OF LIÈGE.

THE University grants a degree in Medicine, Surgery, and Midwifery, which can only be obtained after passing three examinations, in the French language, in natural sciences and medical subjects.

The first examination includes the following subjects: General Chemistry, Logic, Psychology, Moral Philosophy, Experimental Physics, Elements of Zoology, Elements of Botany (comprising the medical category), Elementary Geology and Mineralogy. This is called the examination for candidates in natural sciences.

The second examination, which is for candidates in medicine, includes Elements of Comparative Anatomy, Descriptive and Regional Anatomy, Human Physiology, and Pharmacology.

The third examination, which, when successfully passed, entitles the candidate to the Doctorate, includes the following subjects, viz., General Pathology, Pathological Anatomy, Special Pathology and Therapeutics, Mental Maladies, General Therapeutics, Surgical Pathology and Ophthalmology, Theory and Practice of Midwifery (including operations), Public Hygiene, Legal Medicine, Clinical Medicine, Clinical Surgery, Surgical Operations.

The fees are—for the first examination, 80 *fr.*; second, 40 *fr.*; doctor in medicine, 240 *fr.*; total, 300 *fr.*, or about 15*l.*

UNIVERSITY OF LOUVAIN.

THIS University, before granting the usual degree, insists upon compliance with the following conditions, viz.: 1. An examination in one group (or branch) of the sciences, Mathematics, Physico-chemics, or Natural Sciences; 2. An examination upon all medical subjects, in the French language.

Candidates for the degree of Doctor must have studied medicine five years at a recognised medical college or university, and have attended hospital practice for three years, at a recognised hospital.

The University of Louvain consists of several colleges, and the buildings of the Halles, and contains a library of 70,000 volumes.

ITALY.

THE Italian universities at which degrees in medicine are granted are the Royal Universities of Bologna, Cagliari, Catania, Genoa, Messina, Modena, Naples, Padua, Palermo, Parma, Pisa, Rome, Sassari, Siena, and Turin; the free Universities of Camerino and Perugia; and the Royal Institute for Superior Studies at Florence. There is also a preparatory School of Medicine at Ferrara.

The regulations for Graduation in Medicine in the Universities of Italy are as follows.

1. The Medico-Chirurgical Faculty has the duty of giving instruction in all subjects relating to medicine and surgery, promoting the cultivation of all that is known in that field, and qualifying for the exercise of the medical profession in its various branches. 2. The course of medical and surgical study extends over six years, at the end of which free licence to practise is granted. 3. The following courses of instruction are obligatory: General Chemistry, Organic and Inorganic; Botany; Zoology, with Comparative Anatomy and Physiology; Experimental Physics; Normal Human Anatomy (*i.e.* Histology, Descriptive and Topographic Anatomy, and Dissection); Human Physiology; General Pathology; Pathological Anatomy (demonstrations and exercises); Materia Medica and Experimental Pharmacology; Special Medical Pathology (or Principles and Practice of Medicine); Special Surgical Pathology (Surgery); Clinical Medicine and Exercises in Semeiotics; Clinical and Operative Surgery; Theory and Practice of Ophthalmic Surgery; Theory and Practice of Diseases of the Skin and Syphilis; Midwifery and Clinical Midwifery; Forensic Medicine and Public Hygiene; Theoretical and Clinical Psychiatry (where opportunities exist). 4. The obligatory courses must each be attended one year; except Pathological Anatomy, of which two years are required, and Human Anatomy and Clinical Medicine and Surgery, each three years. 5. The following courses are non-obligatory or complementary; Medical Chemistry; Experimental Toxicology; Critical History of Medicine. 6. Besides these, other free courses may also be given. 7. There shall be three biennial examinations in the Faculty of Medicine; the first for 'promotion';

the second for 'licence'; the third for the degree of 'laureate', with a diploma conferring full licence to practise. 8. In the Universities of Pisa and Siena the licentiate shall have the title of laureate of the first stage (*laurea di primo grado*). 9. In order to be admitted to the first examination (*promozione*) the candidate must have been a student at the University at least two years, and have diligently attended the Courses of Chemistry, Botany, Zoology, Comparative Anatomy and Physiology, Experimental Physics, Human Anatomy, and any subjects of instruction that he may choose, so as to make up eighteen hours of instruction per week. 10. The subjects of examination shall be Chemistry, Botany, Zoology, Comparative Anatomy and Physiology, and Experimental Physics. The Examining Board shall consist of the official teachers of the subjects of examination, with one or two additional examiners not belonging to the teaching body. On the proposal of the Faculty, and with the consent of the Minister, the examination for promotion may be divided into two parts, one to be held at the end of the first year, and the other at the end of the second year. At the beginning of each scholastic year, the Faculty shall determine what courses are to be followed and when. 11. The candidate for admission to the several examinations (licence) must have passed the first examination, have attended the University during two other years, and have diligently attended courses of Human Anatomy and Physiology, General Pathology, Practical Pathological Anatomy, Materia Medica and Experimental Pharmacology, Special Medical Pathology, Special Surgical Pathology, Clinical Medicine, and Clinical Surgery. 12. The Examining Board shall be composed of the official teachers of the subjects mentioned, with one or two assessors not belonging to the teaching body. The examination shall be oral, and practical as regards Human Anatomy and Materia Medica. 13. A candidate for admission to the third examination (*laurea*) must have passed the second examination, have subsequently been a student at the University during two years, and have diligently attended the courses of Clinical Dermatology and Syphilology, Clinical Ophthalmic Surgery, Midwifery and Clinical Midwifery, Clinical Psychiatry, Exercises in Pathological Anatomy, Clinical Medicine and Surgery, Operative Surgery, Forensic Medicine and Hygiene, and voluntary courses so as to make up eighteen hours of instruction each week. 14. The candidate has to undergo an examination on the dead body and two clinical examinations. 15. The examination on the dead body shall be conducted by a sub-committee consisting of all the professors of Operative Surgery, Pathological Anatomy, and Forensic Medicine, with one or two assessors not belonging to the official teaching body. 16. In this examination, the candidate will perform on the dead body a surgical operation, the nature of which will be decided by lot from a series prepared by the sub-committee. He will also perform a necropsy, and draw up a description of the appearances seen. Finally, he will answer the questions put to him by the examiners, and especially on the results of the necropsy, which are asked by the professor of forensic medicine. 17. The first clinical examination will be conducted in the presence of a sub-committee consisting of the professors of Clinical Dermatology and Syphilology, Clinical Obstetrics, Clinical Psychiatry, Clinical Ophthalmology, and Forensic Medicine, with one or two extra-professional assessors. 18. In this examination the candidate will examine four cases of diseases selected from the four special classes which have not previously been examined or treated in the clinical wards, and will give his opinion on the diagnosis, prognosis, and treatment. He will afterwards answer the questions and observations of the examiners, and especially will reply to the questions put by the professor of Forensic Medicine on the obstetric and psychological cases. 19. The several clinical examinations shall be conducted in the presence of a sub-committee, consisting of the Professors of Clinical Medicine, Clinical Surgery, Medicine, Surgery, and Forensic Medicine, with one or two extra-professorial assessors. 20. The candidate shall examine, in the presence of the sub-committee, four patients, two medical and two surgical, who have not yet been examined or treated in the wards, and shall write a description of the cases. He shall, finally, answer the questions asked by the examiners. 21. A student must have passed each stage of the third examination before he can be admitted to the next stage. 22. In each examination, a student rejected in one subject alone may present himself for examination in this subject only on a future occasion: but if he be rejected in two or more subjects, the whole examination must be repeated. 23. The three stages of the third examination having been passed, the three sub-committees unite to form a committee, presided over by the President of the Faculty, and will judge of the merits of the candidates. The successful candidates will be declared doctors in medicine and surgery, and the president will refer them to the Rector, in order that they may receive the diploma of laureate.

Foreigners desirous of obtaining medical degrees in Italian Universities must produce a diploma or degree obtained at some noted foreign university, and must at the same time produce satisfactory proof that they have actually gone through all the studies and passed the examinations required for that degree. They must also pass the ordinary examinations for the medical degree, and pay the respective fees. The examinations are usually conducted in the Italian or the Latin language.

UNITED STATES OF AMERICA.

The United States possess a very large number of institutions empowered by charter to grant the degree of doctor of medicine; these being, in some instances, special colleges and schools of medicine and surgery, and in others the medical departments of Universities. The subjoined is a list of them.

Alabama.—Medical College of Alabama (Mobile).

Arkansas.—Medical Department of Arkansas, Industrial University (Little Rock).

California.—Medical College of the Pacific (University College) (San Francisco): Medical Department of the University of California (San Francisco).

Connecticut.—Medical Department of Yale College (New Haven).

District of Columbia.—National Medical College, Columbian University (Washington): Medical Department of Georgetown University (Washington): Medical Department of Howard University (Washington).

Georgia.—Medical College of Georgia (Augusta):

Savannah Medical College : Atlanta Medical College : Southern Medical College (Atlanta).

Illinois.—Rush Medical College (Chicago) : Chicago Medical College, Medical Department of North-Western University : Women's Medical College (Chicago).

Indiana.—Medical College of Evansville : Indiana Medical College (Indianopolis) : Medical College of Fort Wayne.

Iowa.—College of Physicians and Surgeons (Keokuk) : Medical Department of the State University (Iowa City).

Kentucky.—Medical Department of the University of Louisville : Kentucky School of Medicine (Louisville) : Louisville Medical College : Hospital College of Medicine, Medical Department of Central University (Louisville).

Louisiana.—Medical Department of the University of Louisiana (New Orleans).

Maine.—Bowdoin College and Medical School of Maine.

Maryland.—University of Maryland (Baltimore) : College of Physicians and Surgeons (Baltimore).

Massachusetts.—Harvard University (Boston).

Michigan.—Department of Medicine and Surgery : University of Michigan (Ann Arbor) : Detroit Medical College.

Missouri.—Medical College of the University of Missouri : Missouri Medical College (St. Louis) : St. Louis Medical College : St. Joseph Hospital Medical College : Kansas City College of Physicians and Surgeons.

New Hampshire.—Medical School of Dartmouth College (Hanover).

New York.—College of Physicians and Surgeons of the City of New York : Albany Medical College : Medical Department of the University of the City of New York : Medical Department of the University of Buffalo : Long Island College Hospital (Brooklyn) : Bellevue Hospital Medical College (New York) : College of Medicine of Syracuse University : Women's Medical College (New York).

North Carolina.—Medical School (University of North Carolina).

Ohio.—Medical College of Ohio (Cincinnati) : Columbus Medical College : Starling Medical College (Columbus) : Cleveland Medical College : Cincinnati College of Medicine and Surgery : Miami Medical College (Cincinnati) : Medical Department of Wooster University (Cleveland).

Oregon.—Williamette University (Portland).

Pennsylvania.—Medical Department of the University of Pennsylvania (Philadelphia) : Jefferson Medical College (Philadelphia) : Women's Medical College (Philadelphia).

South Carolina.—Medical College of the State of South Carolina (Charleston).

Tennessee.—Medical Department of the University of Nashville : Medical Department of Vanderbilt University (Nashville) : Medical Department of Central Tennessee College (Nashville) : Nashville Medical College (University of Tennessee).

Texas.—Texas Medical College and Hospital (Galveston).

Vermont.—Medical Department of the University of Vermont.

Virginia.—Medical Department of the University of Virginia (Charlottesville) : Medical College of Virginia (Richmond).

HARVARD UNIVERSITY, BOSTON.

THE following are the professors and teachers in the Medical Department :—Dr. Charles W. Eliot (President) ; Dr. Calvin Ellis (Clinical Medicine) ; Dr. Oliver W. Holmes (Anatomy—*Emeritus*) ; Dr. T. Dwight (Anatomy) ; Dr. Henry J. Bigelow (Surgery—*Emeritus*) ; Dr. Francis Minot (Theory and Practice of Physics) ; Dr. John P. Reynolds (Obstetrics) ; Dr. Henry W. Williams (Ophthalmology) ; Dr. David W. Cheever (Clinical Surgery) ; Dr. James C. White (Dermatology) ; Dr. Robert T. Edes (Materia Medica) ; Dr. Henry P. Bowditch (Physiology) : Dr. Charles F. Folsom (Assistant, Mental Diseases) ; Dr. Frederick I. Knight (Assistant, Laryngology) ; Dr. Charles B. Porter (Assistant, Surgery) ; Dr. J. Collins Warren (Assistant, Surgery) : Dr. Reginald H. Fitz (Pathological Anatomy) ; Dr. William L. Richardson (Assistant, Obstetrics) ; Dr. Edward S. Wood (Chemistry) ; Dr. William H. Baker (Assistant, Gynæcology). Other instructors are :—Dr. William B. Hills (Instructor of Chemistry) ; Dr. F. W. Draper (Lecturer on Forensic Medicine) ; Dr. H. P. Quincy (Assistant in Histology) ; Dr. E. N. Whittier (Instructor in the Theory and Practice of Physic) ; Dr. F. A. Harris (Demonstrator of Medico-Legal Examinations : Dr. W. P. Bolles (Instructor in Materia Medica) ; Dr. E. H. Bradford (Assistant in Clinical Surgery) ; Dr. W. S. Bigelow (Assistant in Surgery) ; Dr. F. H. Davenport (Assistant in Gynæcology) ; Dr. G. M. Garland (Assistant in Clinical Medicine) ; Dr. J. W. Warren (Assistant in Physiology) ; Dr. M. H. Richardson (Demonstrator of Anatomy) ; Dr. W. W. Gannet (Assistant in Pathological Anatomy) ; Dr. C. S. Minot (Lecturer on Embryology) ; Dr. W. C. Emerson (Assistant in Chemistry) ; Dr. W. J. Otis (Assistant in Anatomy) ; Dr. Samuel J. Mixter (Assistant in Anatomy). The following gentlemen will give special clinical instruction :—Dr. John Homans (Diagnosis and Treatment of Ovarian Tumours) ; Dr. Francis B. Greenough (Syphilis) ; Dr. Oliver F. Wadsworth (Ophthalmoscopy) ; Dr. J. Orne Green and Dr. Clarence J. Blake (Otology) ; Dr. Amos L. Mason and Dr. Frederick C. Shattuck (in Auscultation) ; Dr. J. P. Oliver and Dr. T. M. Rotch (Diseases of Children) ; Dr. S. G. Webber and Dr. J. J. Putnam (Diseases of the Nervous System) ; Dr. James R. Chadwick (Gynæcology).

All candidates for admission who hold no degree in arts or science, must pass a written examination on entrance to this School, in English, Latin, Physics, and in any one of the following subjects : French, German, Elements of Algebra or of Plain Geometry, Botany.

Instruction is given by lectures, recitations, clinical teaching, and practical exercises, distributed throughout the academic year. The year begins Sept. 27, 1883, and ends on the last Wednesday in June 1884, and is divided into two equal terms.

Students are divided into four classes, according to their time of study and proficiency, and during their last year will receive largely increased opportunities of instruction in the special branches mentioned. Students who began their professional studies elsewhere may be admitted to advanced standing ; but all persons who apply for admission to the advanced classes must pass an examination in the branches already pursued by the class to which they seek admission.

The course of study recommended by the Faculty

covers four years, but until further notice the degree of Doctor of Medicine will continue to be given upon the completion of three years of study, to be as ample and full as heretofore. The degree of Doctor of Medicine *cum laude* will be given to candidates who have pursued a complete four years' course, and obtained an average of 75 per cent. upon all the examinations of this course. In addition to the ordinary degree of Doctor of Medicine as heretofore obtained, a certificate of attendance on the studies of the fourth year will be given to such students desiring it as shall have attended the course and have passed a satisfactory examination in the studies of the same.

The order of studies and examinations for the four years' course is as follows: *First Year.*—Anatomy, Physiology, and General Chemistry. *Second Year.*—Practical and Topographical Anatomy, Medical Chemistry, Materia Medica, Pathological Anatomy, Clinical Medicine, Surgery, and Clinical Surgery. *Third Year.*—Therapeutics, Obstetrics, Theory and Practice of Medicine, Clinical Medicine, Surgery, and Clinical Surgery. *Fourth Year.*—Ophthalmology, Otology, Dermatology, Syphilis, Laryngology, Mental Diseases, Diseases of the Nervous System, Diseases of Women, Diseases of Children, Obstetrics, Clinical and Operative Obstetrics, Clinical Medicine, Clinical and Operative Surgery, Hygiene, Forensic Medicine. The examinations are held in the following order: End of first year—Anatomy, Physiology, and General Chemistry. End of second year—Topographical Anatomy, Medical Chemistry, Materia Medica, and Pathological Anatomy. End of third year—Therapeutics, Obstetrics, Theory and Practice of Medicine, Surgery. End of fourth year—Ophthalmology, Otology, Dermatology, Syphilis, Laryngology, Mental Diseases, Diseases of the Nervous System, Diseases of Women, Diseases of Children, Obstetrics, Clinical and Operative Obstetrics, Clinical Medicine, Clinical and Operative Surgery, Hygiene, Forensic Medicine.

The order for the three years' course is as follows: *First Year.*—Anatomy, Physiology, and General Chemistry. *Second Year.*—Practical and Topographical Anatomy, Medical Chemistry, Materia Medica, Pathological Anatomy, Clinical Medicine, and Clinical Surgery. *Third Year.*—Therapeutics, Obstetrics, Theory of Practice of Medicine, Clinical Medicine, Surgery, Clinical Surgery, Ophthalmology, Dermatology, Syphilis, Otology, Laryngology, Mental Diseases, Diseases of the Nervous System, Diseases of Women, Diseases of Children, Hygiene, Forensic Medicine. Students following this course are classified as heretofore, and the instruction in the special branches is of the same character as that which has been given for several years. The examinations of the first two years are common to both groups of students. The final examinations at the close of the third year are in the following subjects: Therapeutics, Obstetrics, Surgery, and Clinical Surgery, Theory and Practice, Clinical Medicine.

Examinations in all subjects are also held before the opening of the School, beginning Sept. 26.

Every candidate for a degree must be twenty-one years of age; must have studied medicine three or four full years, have spent at least one continuous year at this School, have passed a written examination upon all the prescribed studies of the course taken, and have presented a thesis.

Course for Graduates.—For the purpose of affording to those already Graduates of Medicine additional facilities for pursuing clinical, laboratory, and other studies, in such subjects as may specially interest them, the Faculty has established a course which comprises, in addition to the list of special departments above stated, the following branches: Histology; Physiology; Medical Chemistry; Pathological Anatomy. On payment of the full fee the privilege of attending any of the other exercises of the Medical School, the use of the laboratories and library, and all other rights accorded by the University will be granted. Single branches may also be pursued. Graduates of other Medical Schools who may desire to obtain the degree of M.D. at this University will be admitted to examination for this degree after a year's study in the Graduates' Course. Examination on entrance is not required.

Fees.—The fees are: for Matriculation, 5 dollars; for the year, 200 dollars; for one term alone, 120 dollars; for Graduation, 30 dollars. For Graduates' course the fee for one year is 200 dollars; for one term, 120 dollars; and, for single courses, special fees. Payment is made in advance.

Students of regular standing in any one department of Harvard University have a right to attend lectures, recitations, and examinations in any other departments without paying additional fees.

UNIVERSITY OF PENNSYLVANIA.

The Medical Department of this University is the oldest medical school in America, having been established in 1765 by Drs. John Morgan and William Shippen, on the plan of the University of Edinburgh, of which the founders were graduates. The following are the professors of the faculty as at present constituted:—Dr. W. Pepper, Provost of the University and *ex officio* President of the Faculty; Dr. H. H. Smith (Surgery—*Emeritus*); Dr. Joseph Leidy (Anatomy); Dr. Richard A. F. Penrose (Obstetrics and Diseases of Women and Children); Dr. Alfred Stillé (Theory and Practice of Medicine, and Clinical Medicine); Dr. D. Hayes Agnew (Surgery and Clinical Surgery); Dr. William Pepper (Clinical Medicine); Dr. William Goodell (Clinical Gynæcology); Dr. James Tyson (General Pathology and Morbid Anatomy); Dr. Horatio C. Wood (Materia Medica, Pharmacy, and General Therapeutics); Dr. Theodore G. Wormley (Chemistry); Dr. John Ashhurst, jun. (Clinical Surgery); Dr. Harrison Allen (Physiology); also the following clinical professors of special subjects:—Dr. W. F. Norris (Diseases of the Eye); Dr. G. Strawbridge (Diseases of the Ear); Dr. L. A. Duhring (Diseases of the Skin).

The curriculum is arranged as follows:—*First Year:* Anatomy, Histology, Materia Medica and Pharmacy, General Chemistry, Physiology, General Pathology, General Clinics—Medical and Surgical. Final Examinations in General Chemistry, Materia Medica, and Pharmacy. *Second Year:* Anatomy, Topographical Anatomy, Medical Chemistry, Physiology, General Pathology and Morbid Anatomy, Therapeutics, Theory and Practice of Medicine, Surgery, Obstetrics, General Clinics—Medical and Surgical. Final examinations in Anatomy, Medical Chemistry, and Physiology. *Third Year:* General Pathology and Morbid Anatomy, Topographical Anatomy, Therapeutics, Theory and Practice of Medicine, Surgery, Obstetrics, Operative Surgery, Minor Surgery and Bandaging, Diseases of Women and Children; Gynæcology, Bedside Instruction in Practical Medicine (including Physical Diagnosis),

Bedside Instruction in Practical Surgery, Practical Ophthalmology, Practical Otology, Practical Dermatology, Practical Electro-Therapeutics, General Clinics—Medical and Surgical. Special Clinics (Nervous Diseases, Diseases of Skin, Eye, Ear, Diseases of Women and Children). Final examinations for degree at the end of the course. General Pathology and Morbid Anatomy, Therapeutics, Theory and Practice of Medicine, Surgery, Obstetrics, and Diseases of Women and Children. Opportunities for practical work in the physiological laboratory will be afforded to those who desire them. A separate fee is charged.

No beneficiary students are received, nor students at reduced rates, except in the case of the six successful applicants for the scholarships created by the board of trustees. These are open to competitive examination. Candidates must furnish satisfactory evidence that they are without the means to defray the expenses of a medical education. They must also write a brief autobiography, which will serve as a test of their qualifications in orthography and grammar; and pass an examination in a Latin prose translation (first three books of Cæsar), and an examination in elementary physics. This examination is held annually in September.

The Faculty have established a post-graduate course, which embraces various special departments. The post-graduate instruction, for the year 1883-84, will be divided into five courses of six weeks each, commencing on Oct. 1, Nov. 12, Jan. 10, Feb. 21, and April 15. The teaching consists in bedside and dispensary lessons, the treatment, examination of patients, and the use of instruments of precision in the diagnosis and treatment of disease. The following subjects are taught practically and in limited classes at the hospitals and dispensaries to which the instructors are attached:—Clinical Medicine and Physical Diagnosis, by Professor Pepper and Dr. Bruen; Renal Diseases and Diabetes, with Practical Examination of Urine, by Professor Tyson; Nervous Diseases and Electro-Therapeutics, by Dr. Weir Mitchell and Dr. Sinkler; Clinical Surgery, by Professor Ashhurst; Ophthalmology, by Dr. Risley; Dermatology, by Professor Duhring; Otology, by Professor Strawbridge; Gynæcology, by Dr. Baer; Operative Surgery, by Dr. White; Venereal Diseases, by Dr. White; Clinical and Operative Obstetrics, by Dr. Richardson; Laryngology, by Dr. Seiler; Diseases of Children, by Dr. Starr; Microscopy and Pathology, by Dr. Formad.

The Laboratory Building is a spacious building of four floors: the first being devoted to operative dentistry; the second and third are fitted up as chemical laboratories; while the fourth contains apartments for physiological, histological, and pathological investigation. There are also a pharmaceutical laboratory, and one of experimental therapeutics. The attendance of the students upon the laboratory courses is compulsory. Before commencing dissecting the student is obliged to attend the osteo-syndesmological laboratory, in order to make himself familiar with the skeleton. The following are the requirements for graduation.

Students who have attended one course in a regular medical school (homœopathic and eclectic schools are not recognised) will be admitted as students of the second course in the University, after having satisfactorily passed an examination in General Chemistry and Materia Medica and Pharmacy. Students who have attended two courses in a regular medical school will be admitted as students of the third course after having satisfactorily passed an examination in General and Medical Chemistry, Materia Medica and Pharmacy, Anatomy, and Physiology. Graduates of other regular medical schools in good standing will be admitted as students of the third course without an examination. Graduates of Colleges of Pharmacy and Dental Colleges in good standing are admitted to the second course without an examination.

The candidate for the degree of Doctor of Medicine must have attained the age of twenty-one years, and be of good moral character. He must have studied medicine for three years, and have attended at least his last course of instruction in this school, have prepared a satisfactory thesis, and have passed the required examinations. Candidates who have not been successful upon a first examination will be permitted to have a second before the June commencement. The commencement for conferring the degree of Doctor of Medicine is held on the 15th day of March, unless that day should fall on a Saturday or Sunday, when it is held on the preceding Friday. The degree will not be conferred upon a candidate who absents himself from the public commencement, except by special permission of the Medical Faculty.

The entire College expenses for the three years' course is 435 dollars, including matriculation and graduation fees.

JEFFERSON MEDICAL COLLEGE, PHILADELPHIA.

THE fifty-ninth Session of this College will begin on October 1, and continue till the end of March 1884. The lectures will be delivered by the following professors: Dr. Samuel D. Gross (Institutes and Practice of Surgery);—*Emeritus;* Dr. Ellerslie Wallace (Obstetrics and Diseases of Women and Children); Dr. Roberts Bartholow (Materia Medica and General Therapeutics); Dr. Henry C. Chapman (Institutes of Medicine and Medical Jurisprudence); Dr. J. M. Da Costa (Practice of Medicine); Dr. W. H. Pancoast (General, Descriptive, and Surgical Anatomy); Dr. Robert E. Rogers (Medical Chemistry and Toxicology); Dr. S. W. Gross (Principles of Surgery and Clinical Surgery); Dr. T. Parvin (Obstetrics and Gynæcology); Dr. W. Thomson (Ophthalmology).

A spring course of Supplementary Lectures is given, beginning early in April and ending early in June. There is no additional charge for this course to matriculates of the College, except a registration fee of 5 dollars; non-matriculates pay 40 dollars, 35 of which is, however, credited on the amount of fees paid for the ensuing Winter Course.

To the usual instruction in medical schools, the Faculty of this college have added a thorough system of practical laboratory work. To each course of the regular curriculum there is appended a laboratory course, carried on in large and thoroughly equipped apartments in the college, by specially appointed Demonstrators, under the immediate direction of the Professor. In this way each candidate for the degree of M.D. is immediately and personally taught in obstetrics and gynæcology, physical diagnosis, laryngology, ophthalmology, medical chemistry, pharmacy, materia medica and experimental therapeutics, physiology, histology and experimental

physiology, and minor surgery, bandaging, operations on the cadaver, &c.

In the department of medicine, clinical conferences and practical lessons in physical diagnosis give each student familiarity with all forms of disease. This course of instruction is *free of charge, but obligatory upon* candidates for the degree, except those who have had such instruction and those who are graduates of other colleges of ten years' standing.

A *Post Graduate Course*, very complete in all the details of instruction, has been organised for practitioners only.

Clinical Instruction is given throughout the year at the Hospital of Jefferson College, which accommodates 100 patients.

A candidate for the degree of M.D. must be of good moral character, and at least 21 years of age. He must have studied medicine for not less than three years, and have attended at least two full winter sessions of lectures, one of which must have been in this College. At least one course of Practical Anatomy and one of Clinical Instruction must have been attended; and he must present a thesis, of his own composition and in his own handwriting, on some medical subject.

No honorary degrees in medicine are granted by this College.

The *Fees* are: for a full Course, 140 dollars; Matriculation Fee (paid once only), 5 dollars; Practical Anatomy, 10 dollars; Graduation Fee, 30 dollars; for a full course of Lectures to those who have attended two full courses at other recognised Colleges, the Matriculation Fee and 70 dollars; to Graduates of other Colleges, of less than ten years, the Matriculation Fee and 50 dollars; to Graduates of ten years and upwards, the Matriculation Fee only.

COLLEGE OF PHYSICIANS AND SURGEONS OF NEW YORK.

This is otherwise known as the Medical Faculty of Columbia College. The instruction is given by the following professors, &c.: Dr. Alonzo Clark (Pathology and Practical Medicine); Dr. Willard Parker (Principles and Practice of Surgery)—*Emeritus:* Dr. J. G. Curtis (Physiology and Hygiene); Dr. T. M. Markoe (Principles of Surgery); Dr. T. Gaillard Thomas (Clinical Gynæcology); Dr. J. T. Metcalfe (Clinical Medicine)—*Emeritus:* Dr. H. B. Sands (Practice of Surgery); Dr. J. W. McLane (Obstetrics and the Diseases of Children); Dr. T. T. Sabine (Anatomy); Dr. C. E. Chandler (Chemistry and Medical Jurisprudence); Dr. E. Curtis (Materia Medica and Therapeutics); Dr. F. Delafield (Adjunct, Pathology, and Practical Medicine); Dr. Wm. Detmold (Military and Clinical Surgery)—*Emeritus:* Dr. W. H. Draper (Clinical Medicine); Dr Cornelius R. Agnew (Diseases of the Eye and Ear); Dr. Abraham Jacobi (Clinical, Diseases of Children); Dr. Fessenden N. Otis (Clinical, Diseases of the Mind and Nervous System); Dr. G. M. Lefferts (Clinical, Laryngoscopy and Diseases of the Throat); Dr. G. H. Fox (Clinical, Diseases of the Skin); Dr. Bull (Demonstrator of Anatomy); Dr. Prudden (Director of the Pathological Laboratory).

The Collegiate Year consists of a regular Winter Session, attendance upon which is required for the graduation. Tuition is by the following methods:

1. *Didactic Lectures.*—During the Session from two to six lectures are given daily by the Faculty. Attendance is obligatory.

2. *Clinical Teaching.*—Ten clinics, covering all departments of medicine and surgery, are held weekly throughout the entire year in the College Building. In addition, the Faculty give daily clinics at the larger City Hospitals and Dispensaries (such as the Bellevue Charity, New York, and Roosevelt Hospitals, the New York Eye and Ear Infirmary, the Women's Hospital, &c.) Attendance is optional.

3. *Recitations* are held daily. Attendance is optional.

Personal Instruction.—Personal instruction is given in Practical Anatomy, Experimental Physiology, Operative Surgery, Minor Surgery, Physical Diagnosis, Ophthalmology, Otology, Laryngoscopy, Normal and Pathological Histology, and the Examination of the urine. Attendance is optional, except upon Practical Anatomy.

Candidates for the Degree of Doctor of Medicine must have attended two full courses of lectures on Anatomy, Physiology, Chemistry, Materia Medica and Therapeutics, Obstetrics, Surgery, Pathology, and Practical Medicine; the second course must have been given in this College. Students are permitted—and are recommended—to complete the two full courses by attendance during three or more sessions, taking only certain branches in each session. Candidates must have studied Practical Anatomy during one winter session; have been engaged during three years in the study of medicine under a regular physician or surgeon; have attained the age of 21 years; and be of good moral character. Each candidate must present a thesis on some medical subject, and pass an examination in the seven branches of medical science above mentioned.

Students who have attended two courses of lectures (one being at this College) on Anatomy, Physiology, and Chemistry, may be examined on these subjects at the end of their second course; and the examination, if satisfactory, is accounted final.

Students and graduates of other schools are admitted under special regulations.

The fees are: Yearly matriculation, 5 dollars; Course of Lectures each Session, 140 dollars, or 20 dollars for each course; Practical Anatomy, 10 dollars, and graduation fee, 30 dollars.

UNIVERSITY OF THE CITY OF NEW YORK.

The Professors in the Faculty of Medicine are: Dr. Alfred C. Post (Clinical Surgery)—*Emeritus:* Dr. Charles I. Pardee (Diseases of the Ear); Dr. John C. Draper (Chemistry); Dr. Alfred L. Loomis (Pathology and Practice of Medicine); Dr. W. Darling (Anatomy); Dr. W. H. Thomson (Materia Medica, Therapeutics, and Diseases of the Nervous System); Dr. J. W. S. Arnold (Physiology and Histology); Dr. J. Williston Wright (Surgery); Dr. Fanueil D. Weisse (Practical and Surgical Anatomy); Dr. W. H. Polk (Obstetrics and Diseases of Women and children; Dr. L. A. Stimson (Physiology and Physiological Anatomy); Dr. R. Witthaus (Physiological Chemistry); Dr. Stephen Smith (Clinical Surgery); Dr. A. E. Macdonald (Medical Jurisprudence and Diseases of the Mind); Dr. H. Knapp (Ophthalmology); Dr. S. O. Vanderpoel (Public Hygiene). There are also five clinical lecturers; viz., Dr. Drake (Medicine); Dr. Shaffer (Ortha-

pædic Surgery); Dr. Morrow (Dermatology); Dr. Winters (Diseases of Children); and Dr. Jarvis (Laryngology). Dr. L. Johnson is Lecturer on Medical Botany.

The Collegiate Year is divided into three Sessions: a Preliminary Session, a Regular Winter Session, and a Spring Session.

The Preliminary Session will begin on Wednesday, September 19. It will be conducted on the same plan as the Regular Winter Session.

The Regular Winter Session will begin October 3, 1883, and end about the middle of March 1884. The Plan of Instruction consists of Didactic and Clinical Lectures, recitations, and laboratory work in all subjects in which it is practicable. To put the laboratories on a proper footing a new building has been erected at an expense of 35,000 dollars. It will contain laboratories fitted for instruction in Chemistry, Histology, Pathology, Materia Medica, Operative Surgery, and Gynæcology.

Two to five Didactic Lectures, and two or more Clinical Lectures, will be given each day by members of the Faculty. In addition to the ordinary clinics, special clinical instruction, without additional expense, will be given to the candidates for graduation during the latter part of the Regular Session. For this purpose the candidates will be divided into sections of twenty-five members each. At these special clinics students will have excellent opportunities to make and verify diagnoses, and watch the effect of treatment. They will be held in the Wards of the Hospitals and at the Public and College Dispensaries.

Each of the seven Professors of Chemistry, Medicine, Anatomy, Materia Medica, Physiology, Surgery, and Obstetrics, will in one evening in each week conduct a recitation on his subject. Students are thus enabled to make up for lost lectures and prepare themselves properly for their final examinations without additional expense.

The Spring Session will begin about the middle of March and end the last week in May. The daily Clinics and Special Practical Courses will be the same as in the Winter Session, and there will be Lectures on Special Subjects by the Members of the Faculty. It is supplementary to the Regular Winter Session. Nine months of continued instruction are thus secured to all students of the University who desire a thorough course.

Fees.—These are: for Course of Lectures, 140 dollars; Matriculation, 5 dollars; Demonstrator's Fee (including material for dissection), 10 dollars; final Examination Fee, 30 dollars.

BELLEVUE HOSPITAL MEDICAL COLLEGE, NEW YORK.

THE teaching staff of the College consists of the following professors: Dr. Isaac E. Taylor (Obstetrics and Diseases of Women)—*Emeritus;* Dr. Fordyce Barker (Clinical Midwifery and Diseases of Women); Dr. B. W. McCready (Materia Medica and Therapeutics and Clinical Medicine)—*Emeritus;* Dr. Austin Flint (Principles and Practice of Medicine, and Clinical Medicine; Dr. F. S. Dennis (Principles and Practice of Surgery and Clinical Surgery); Dr. Lewis A. Sayre (Orthopædic Surgery and Clinical Surgery); Dr. Alexander B. Mott (Clinical and Operative Surgery); Dr. Wm. T. Lusk (Obstetrics and Diseases of Women and Children, and Clinical Midwifery); Dr. A. A. Smith (Materia Medica and Therapeutics, and Clinical Medicine); Dr. Austin Flint, jun. (Physiology and Physiological Anatomy); Dr. Joseph D. Bryant (Anatomy and Clinical Surgery); Dr. R. Ogden Doremus (Chemistry and Toxicology); Dr. Edward G. Janeway (Diseases of the Nervous System and Clinical Medicine, and Associate Professor of Medicine); Dr. Henry D. Noyes (Ophthalmology and Otology); Dr. John P. Gray (Psychological Medicine and Medical Jurisprudence); Dr. Beverly Robinson (Clinical Medicine); Dr. J. W. Howe (Clinical Surgery); Dr. Edward L. Keyes, Cutaneous and Genito-Urinary Diseases); Dr. J. L. Smith (Diseases of Children); Dr. W. H. Welch (Pathological Anatomy and General Pathology); Dr. C. A. Doremus (Adjunct to Chair of Chemistry and Toxicology); also the following lecturers: Dr. L. M. Yale (Adjunct, Orthopædic Surgery); Dr. F. H. Bosworth (Diseases of the Throat); Dr. F. A. Castle (Pharmacology); Dr. T. H. Burchard (Surgical Emergencies); Dr. C. S. Bull (Ophthalmology and Otology).

The Collegiate Year in this Institution embraces the Regular Winter Session, and a Sping Session. The Regular Session begins on Wednesday, September 19, 1883, and ends about the middle of March 1884. During this Session, in addition to four didactic lectures on every week day except Saturday, two or three hours are daily allotted to clinical instruction. Attendance upon two regular courses of lectures is required for graduation. The Spring Session consists chiefly of recitations from text-books. This Session begins about the middle of March, and continues until the middle of June. During this Session, daily recitations in all the departments are held by a corps of examiners appointed by the Faculty. Short courses of lectures are given on special subjects, and regular clinics are held in the Hospital and in the College building.

Fees.—For the Regular Session: Tickets to all the Lectures, Clinical and Didactic, 140 dollars; for Students who have attended two full courses at other Medical Colleges; and for Graduates of less than three years' standing of other Medical Colleges, 70 dollars; Matriculation fee, 5 dollars; Dissection fee (including material for dissection), 10 dollars; Graduation fee, 30 dollars; no fees for Lectures are required of Graduates of three years' standing, or of third-course Students who have attended their second course at the Bellevue Hospital Medical College. For the Spring Session; Matriculation (ticket valid for the following winter), 5 dollars; Recitations, Clinics, and Lectures, 40 dollars; Dissection (ticket valid for the following winter), 10 dollars.

The Matriculation Examination consists of English composition; Grammar, an examination upon the above-mentioned composition; Arithmetic, including vulgar and decimal fractions; Algebra, including simple equations; Geometry, first two books of Euclid. This examination will be waived for those who have received the degree of A.B., those who have passed the freshman examination for entrance into any incorporated literary college, those who present certificates of proficiency in the subjects of the matriculation examination from the principal or teachers of any reputable high school, and those who have passed a matriculation examination at any recognised medical college or at any scientific school or academy in which an examination is required for admission.

UNIVERSITY OF LOUISVILLE.

The following constitute the Faculty of the Medical Department of this University :—Dr. J. M. Bodine, Professor of Anatomy and Diseases of the Ear and Throat, Dean ; Dr. Lunsford P. Yandell, Professor of Principles and Practice of Medicine and Clinical Medicine ; Dr. E. R. Palmer, Professor of Physiology and Clinical Diseases of the Chest ; Dr. T. S. Bell, Professor of State Medicine and Sanitary Science ; Dr. James W. Holland, Professor of Materia Medica, Therapeutics, and Clinical Medicine ; Dr. David W. Yandell, Professor of Surgery and Clinical Surgery ; Dr. W. O. Roberts, Professor of Surgical Pathology and Operative Surgery ; Dr. John A. Octerlony, Professor of Obstetrics and Diseases of Women and Children ; Dr. H. A. Cottell, Lecturer on Medical Chemistry ; Dr. W. Cheatham, Clinical Lecturer on Diseases of the Eye, Ear, and Throat ; Dr. R. B. Gilbert, Demonstrator of Anatomy ; Dr. C. Skinner, Assistant Demonstrator of Anatomy.

The Forty-seventh Regular Annual Session begins September 10, 1883, and ends March 1, 1884.

Fees.—Matriculation Ticket, 5 dollars ; General Lecture Ticket, 75 dollars ; Practical Anatomy, 10 dollars ; Hospital Ticket, 5 dollars ; Graduation, 30 dollars.

The Spring Term of 1884 will begin March 3, and end June 1. This Course offers special and superior facilities for students just entering upon the study of medicine, and those who, having finished attendance upon their first course of lectures, desire to continue their studies systematically throughout the year. It includes Clinical Teaching and Pharmaceutical work in the Dispensary, systematic recitations from Text-books, by a corps of examiners who have the use of the Museum for illustration, personal manipulations in Operative Surgery, Chemistry, Histology, Ophthalmoscopy, Laryngoscopy, and Otoscopy. The Spring Course is designed to be supplementary to the Regular Winter Course. Attendance upon it is voluntary, and does not count as a session. The Fee for the Full Course is 25 dollars.

Postgraduate Course.—This course is for the special benefit of practitioners of medicine, and is wholly distinct from the regular course of instruction preparatory to graduation. The Postgraduate Course will begin on April 1, 1884, and continue six weeks. It will consist of clinical and didactic lectures and demonstrations as follows : Dr. Bodine, On the Diseases of the Ear and Throat ; Dr. L. P. Yandell, On Clinical Medicine, Diseases of the Skin and Venereal Diseases ; Dr. Palmer, On Physical Diagnosis ; Dr. Bell, On State Medicine ; Dr. Holland, On Diseases of the Nervous System ; Dr. D. W. Yandell, On the Surgery of the Rectum and Urinary Tract ; Dr. Roberts, On Operative and Orthopædic Surgery ; Dr. Octerlony, On the Diseases of the Puerperal State ; Dr. Cheatham, On Ophthalmology and Laryngology ; Dr. Cottell, On Urinalysis and Toxicology.

The extensive museum, laboratories, and abundant clinical material of the University will be thoroughly utilised for illustrating this course. Practitioners in attendance will have the opportunity of making personal examination of patients in the several clinical departments, and ample scope will be afforded for practical observation. They will also receive practical instruction in the use of instruments of precision, apparatus, &c. The fee for the entire course, including matriculation, clinical instruction, use of laboratories and dissecting rooms (material only extra and at cost), is 40 dollars. A certificate of attendance, signed by the Faculty, will be given at the close of the course.

The University Dispensary affords great facilities to students. The building is upon the University grounds, and is open to patients and students throughout the year. The Dispensary furnishes material for Daily College Clinics from the following chairs : Clinical Medicine, Clinical Surgery, Diseases of Women and Children, Diseases of the Heart and Lungs, and Diseases of the Eye and Ear, Diseases of the Skin, and Diseases of the Nervous System. In addition to the daily College Clinics mentioned, two Medical and two Surgical Clinics will be held weekly in the commodious amphitheatre of the City Hospital. The Professors of Clinical Medicine and Clinical Surgery will lecture in the Hospital during the session. In addition to the above, the abundant clinical material of SS. Mary and Elizabeth Hospital is at the command of the University Faculty.

CANADA.

The following are the Medical Examining Bodies and Schools in the several provinces constituting the Dominion of Canada.

Nova Scotia.—University of Halifax Faculty of Medicine ; Halifax Medical College.

Ontario.—College of Physicians and Surgeons of Ontario ; Medical Faculty of the University of Victoria College, Coburg ; Medical Faculty of Queen's College, Kingston ; Royal College of Physicians and Surgeons, Kingston ; Medical Faculty of the University of Ottawa ; University, Toronto ; Trinity College Faculty of Medicine, Toronto ; Toronto School of Medicine ; Trinity Medical College.

Quebec.—College of Physicians and Surgeons of Quebec ; Bishop's College University Faculty of Medicine, Montreal ; Laval University, Montreal and Quebec ; McGill University Faculty of Medicine.

UNIVERSITY OF TORONTO.

The University of Toronto has no Medical Department, and does not teach Medicine. Its sole functions are to prescribe Studies, examine Candidates, confer Degrees, and award Scholarships, Medals, &c. It has by statute the power, with the approval of the Governor of Ontario and Council, to affiliate with itself independent incorporated Medical Schools.

The Decree of Bachelor of Medicine may be obtained, either (1) by taking a Pass Course, or (2) by taking an Honour Course.

Candidates must pass the Matriculation Examination unless (1) they possess a Degree in Arts, not being an Honorary Degree, from any Dominion or British University ; or (2) they have already matriculated in the Faculty of Arts, or in the Faculty of Law in this University. Before presenting themselves for the Matriculation Examination, candidates must produce satisfactory certificates of good conduct, and of having completed the sixteenth year of their age. The Matriculation Examination (both Pass and Honours) commences in the latter part of June, and Supplemental Examinations (Pass alone) are held in the latter part of

September. Candidates on giving notice of intention to present themselves at the Matriculation Examination must signify whether they propose taking the Pass or the Honour Examination. Scholarships are only awarded in connection with the latter. The following groups of subjects must be passed by every Matriculant: 1. Three out of four languages, Latin, Greek, French, and German, one of which must be Latin; 2. Mathematics, including Arithmetic, Algebra to the end of Quadratics, and the first three books of Euclid; 3. English Grammar, Composition, and Dictation, with the Outlines of English History and the Geography of America and Europe. Extra Honour papers are set in all the above-mentioned subjects, and special attention is paid to translation from English into other languages.

Undergraduates must attend lectures and receive practical instruction, during four years, at a recognised School of Medicine. Each Undergraduate, at the end of each of the four years, must present himself at the Annual Examination. These examinations are styled the first, second, third, and fourth Professional Examinations, and are to be passed by all candidates for the Degree. Graduates in Arts of this University, with honours in the department of Natural Sciences, are exempted from the First Professional Examination, and from the fee for the same. They must, however, take Anatomy along with the Second Professional Examination. No candidate can pass a Professional Examination who has not obtained at least one-half of the marks required; nor is a candidate considered as having passed any subject who has not obtained at least one-third of the marks allotted to it. Every undergraduate who proposes to present himself at a Professional Examination must send in to the Registrar a statement (according to a printed form furnished) of the course he is taking, whether Pass or Honour, of the lectures attended, and of the practical instruction received, with the names of the Teachers, and such other particulars as the printed form may indicate, together with the original certificates referred to in the statement.

The following are the certificates required for the different examinations, and the subjects of examination.

First Professional Examination.—Certificates are required: 1. Of Matriculation; 2. Of having attended a course of lectures on each of the following subjects: Anatomy, 100 lectures; Physiology and Inorganic Chemistry, each 60 lectures; Natural Philosophy, 20 lectures; Botany and Zoology, each 40 lectures. 3. Of practical instruction in anatomy during six months. The subjects of examination are: 1. Anatomy of the Bones, Muscles, and Ligaments, and of the Viscera of the Abdomen and Thorax; 2. Elements of Inorganic Chemistry; 3. Elements of Natural Philosophy, Electricity, Heat, and Light; 4. Elements of Botany. (An acquaintance with the noxious and medicinal plants of the Canadian flora is expected.) 5. Elements of Zoology; and, for candidates for honours, Comparative Anatomy of Vertebrata, and Practical Examination in Natural Philosophy.

Second Professional Examination.—Candidates must produce certificates: 1. Of having attended lectures on Anatomy (second course of 100 lectures); Physiology, Materia Medica and Therapeutics, each 100 lectures; Organic Chemistry; 2. Of Practical Instruction in Anatomy (a second course of six months; Histology; and Physiological Chemistry, each during three months; 3. Of having dissected the human body once; 4. Of being skilled in Compounding and Dispensing Drugs. (This certificate may be from a registered practitioner, the apothecary of a public hospital, or of a public dispensary, or from a member of the Pharmaceutical Societies of Ontario or Quebec.) The subjects of examination are: 1. Elements of Organic Chemistry; 2. Anatomy; 3. Physiology; 4. Materia Medica and Therapeutics; and (for honours) Physiology of Muscle, Nerve Circulation, &c.

Third Professional Examination.—The candidates must produce evidence: 1. Of having attended lectures on Practice of Medicine, Surgery, Obstetrics, each 100 lectures; Clinical Surgery and Medicine, and General Pathology, each 50 lectures; 2. Of having dissected the human body a second time; 3. Of Practical Instruction in Pathological Histology during three months. The subjects of this examination are: 1. Practice of Medicine; 2. Surgery and Surgical Anatomy; 3. General Pathology, including Morbid Anatomy and the mode of conducting Necropsies; 4. Obstetrics and Diseases of Women and Children; 5. Clinical Medicine and Surgery.

Fourth Professional Examination.—Certificates are required: 1. Of having attended lectures on:—Clinical Medicine and Surgery, and Forensic Medicine, each 50 lectures; Hygiene, 25 lectures; Medical Psychology, 12 lectures; 2. Of Practical Instruction in Chemistry in its application to Hygiene and Forensic Medicine; 3. Of having attended at least six clinics in a Public Lunatic Asylum; 4. Of having conducted at least six Labours; 5. Of proficiency in Vaccination (certificate received from any registered Practitioner); 6. Of attendance in the wards of a Public Hospital accommodating not less than 100 beds during eighteen months; 7. Of attendance for six months on the out practice of a Hospital, Dispensary, or registered Practitioner; 8. Of having attended twelve Necropsies. The subjects of examination are: 1. Practice of Medicine; 2. Surgery; 3. Forensic Medicine; 4. Hygiene; 5. Medical Pyschology; 6. Clinical Medicine and Surgery; 7. Practical Chemistry in its application to Forensic Medicine and Hygiene.

Scholarships.—The following Scholarships are annually offered for competition: At Matriculation, one of 100 dollars and one of 50 dollars; at each Professional Examination, one of 120 dollars and one of 80 dollars. The First Year Scholarships are not open to Graduates in Arts with Honours in the Department of Natural Sciences. No Professional Scholarship will be awarded to any Candidate who has not obtained First Class Honours in the Examination for which it was conferred. Each Scholarship is tenable for one year only, but the Scholar of one year is eligible for the Scholarship of a succeeding year. A gold medal and three silver medals are offered annually for competition among the Undergraduates who have succeeded in obtaining the degree of M.B., with First Class Honours, and will be awarded according to the percentage of marks in the aggregate results of the Second, Third, and Fourth Professional Examinations; but the gold medal will only be awarded on the special recommendation of the Examiners. Prizes, each of the value of 10 dollars, in books, may be awarded annually among Undergraduates in Law, Medicine and Arts, for the best Composition in Greek Verse,

Greek Prose, Latin Verse, Latin Prose, English Verse, English Prose, French Prose, or German Prose. Certificates of Honour will be given to those students, who, at any of the Examinations, have been placed in the First Class in Honours in any Department. One Gold and two Silver Medals, called the "Starr Medals," are conferred upon the three Bachelors of Medicine who have attained, in the course of their Annual Professional Examinations, the highest marks in the following subjects: Anatomy for the first and second years, and in Surgical Anatomy of the third year; Physiology for the first and second years, and Histology, Physiological Chemistry and Practical Physiology of the second year; General Pathology and in Morbid Anatomy and Histology of the third year. Every recipient of the Medal must have attained the standing of First Class in each of the above-mentioned subjects, and must have been classed in Honours in the Fourth Professional Examination.

Candidates for Honours are entitled to First Class Honours in any of the Professional Examinations if they obtain 75 per cent. of the aggregate marks; those who obtain 66 per cent. will be entitled to Second Class Honours. Extra papers on all the Pass Subjects will be set for Honour candidates, as well as papers on certain extra Honour subjects, viz., Comparative Anatomy of the Vertebræ, Natural Philosophy, the Physiology of Nerve, Muscle, Circulation, &c. Candidates proceeding to the Degree of M.B. by taking the Honour Course are grouped in two classes. Those who receive the Degree with First Class Honours who have been placed in the First Class Honour List in second, third, and fourth Professional Examinations. Those receive their Degree with Second Class Honours who have been placed in the Honour List in the second, third, and fourth Professional Examinations. Candidates for the Degree of M.B. who are also Graduates in Arts of the University with Honours in the Department of Natural Science, are considered as having passed their first Professional Examination with First Class Honours.

Degree of M.D.—Candidates for the Degree of M.D. must be of one year's standing from admission to the Degree of M.B., and have composed an approved thesis upon some medical subject.

Fees.—The fees are: Matriculation, 5 dollars; Registration of exemption from this examination for Graduates in Arts from other Universities, 5 dollars; for Matriculants from other Faculties in the University, 3 dollars; for Graduates in Arts of this University, 2 dollars. No fee is exacted from Graduates in Arts of this University who have taken honours in Natural Science. For each Professional Examination, 2 dollars; a rejected candidate may present himself at the same examination in the following year on payment of 1 dollar. Degree of M.B., 6 dollars; Degree of M.D., 8 dollars.

TRINITY COLLEGE UNIVERSITY FACULTY OF MEDICINE.

THE following are the requisites for admission to the Degree of Bachelor of Medicine in this University. The candidate must have passed a Matriculation Examination in the following subjects, or one equivalent thereto, in this or in some other recognised institution. The subjects comprised are: Arithmetic; Algebra (including Simple Equations); Geometry (first three Books of Euclid); Latin (Translation and Grammar); Greek (Translation and Grammar) or Natural Philosophy; and one of the following subjects: English, French, German, Scripture History and Greek Testament. A Graduate or Matriculant in Arts, in any recognised University in Her Majesty's Dominions, is not required to pass the Matriculation Examination. He must produce a satisfactory certificate of good conduct, must be 21 years of age, and must have regularly attended lectures extending over four winter sessions, or have studied one year with a medical practitioner, and have subsequently attended lectures during three winter sessions. He must have attended not less than two courses of six months each on Anatomy, Practical Anatomy, Medicine, Surgery, Chemistry, Midwifery, and Diseases of Women and Children, Materia Medica, and Therapeutics, Physiology: two three months' courses on Medical Jurisprudence, and one course in Normal Histology, Pathological Histology, Practical Chemistry, Toxicology, Botany, and Sanitary Science respectively. He must also have attended for at least eighteen months the practice of some General Hospital, and have attended, during two sessions, Clinical Lectures on Medicine and Surgery; and, for at least six months, the practice of a Lying-in Hospital; or he must have otherwise enjoyed equivalent obstetrical advantages, with attendance upon at least six cases of Labour. He must have passed in this University an examination in all the above subjects. The course of study may have been pursued either wholly in Trinity Medical School, or partly in some other recognised Medical School.

The examinations are Primary and Final. The Primary Examination embraces Descriptive Anatomy, Physiology, Normal Histology, General Chemistry and Chemical Physics, Practical Chemistry, Toxicology, Materia Medica and Therapeutics, Botany. It may be passed at the close of the second year's lectures.

The Final Examination embraces Theory and Practice of Medicine, Principles and Practice of Surgery, Midwifery and Diseases of Women and Children, Pathological Histology, Medical Jurisprudence, and Sanitary Science. It takes place at the close of the last Winter Session.

Should the candidate desire it, he may undergo his entire examination in all the branches at the end of his last year's study. The examinations are held annually in the spring.

Degree of M.D. and C.M.—Candidates for this Degree must be Bachelors of Medicine of at least twelve months' standing. They are required to send in at least one month before Convocation a Thesis on some Medical Subject, which Thesis must be approved by the Board of Examiners.

Fees.—These are Primary Examination for the Degree of M.B., 10 dollars; Final ditto, 14 dollars. Full Fee, including all College Examinations, 24 dollars. Candidates rejected at either the Primary or the Final Examination have the fee returned, less fee 5 dollars. There is no additional fee for the degree of M.D.

TRINITY MEDICAL SCHOOL.

THIS School is in affiliation with the University of Trinity College; also with the Universities of Toronto and Halifax; and is recognised by the Royal

Colleges of Physicians and Surgeons of Great Britain. The winter Session of 1883-84 will commence on Tuesday, October 2nd, 1883. Lectures will be delivered by the following professors: Dr. Walter B. Geikie (Practice of Medicine and Clinical Medicine); Dr. J. Fulton (Surgery and Clinical Surgery); Dr. J. Algernon Temple (Obstetrics and Diseases of Women and Children); Dr. J. E. Kennedy (Materia Medica and Therapeutics); Dr. H. Robertson (Anatomy, Descriptive and Surgical); Mr. Thomas Kirkham (General Chemistry and Botany); Dr. C. W. Covernton (Sanitary Science); Dr. Fred. Le M. Grasett (Medical Jurisprudence, Lecturer on Surgical Appliances); Dr. W. T. Stuart (Practical Chemistry and Toxicology); Dr. Charles Sheard, (Physiology and Histology); Dr. J. Fraser is Demonstrator of Anatomy; and Dr. G. S. Ryerson lectures on the Eye, Ear, and Throat.

Matriculation.—Students are advised before commencing their medical studies, to pass the Matriculation Examination of the Medical Council of Ontario or Quebec, either of which will be accepted by the University of Trinity College. Students from the Maritime Provinces, Ontario, or the United States, who do not desire to pass the Council Examination, will be admitted to attendance on Lectures, but must present themselves for the Matriculation Examination of Trinity University, on the second Saturday of October or March, or the Matriculation in Toronto University at the usual time. The matriculation of the Universities may be passed at any time before graduation.

The Toronto General Hospital has a large number of patients in the wards, who are visited daily by the medical officers in attendance. The attendance of out-door patients daily is also very large, and thus abundant opportunities are enjoyed by students, for acquiring a familiar knowledge of Practical Medicine and Surgery. The Burnside Lying-in Hospital, amalgamated with the Toronto General Hospital, has recently had its staff largely increased, and will afford special and valuable facilities for the study of Practical Midwifery. The large new building, close to the Hospital and School, will be very convenient for students attending its practice. The Mercer Eye and Ear Infirmary is also amalgamated with the Toronto General Hospital, and affords special facilities for students in this department. The Toronto Dispensary, established several years ago, is open to students free of charge.

Daily clinical instruction will be given by members of the Hospital Staff, on all interesting cases, Medical and Surgical. Arrangements have been recently made for the delivery of daily clinics. in the theatre of the Hospital, by the respective professors in medicine and surgery of both schools, in addition to the usual clinics.

Fees.—The Fee for Anatomy, Surgery, Practice of Medicine, Obstetrics, Materia Medica, Physiology, and General Chemistry, 12 dollars each; Practical Anatomy, Practical Chemistry, Normal Histology, and Pathological Histology, 8 dollars each; Clinical Medicine, Clinical Surgery, and Medical Jurisprudence, 6 dollars each; Botany, Sanitary Science, Zoology, and Medical Pathology, 5 dollars each; Registration Fee (payable once only), 5 dollars. Students are free in all the regular Branches after having attended the School during the two full courses.

McGILL UNIVERSITY FACULTY OF MEDICINE, MONTREAL.

THE Matriculation Examination comprises the following subjects: English language (including Grammar and Composition); Arithmetic (including Vulgar and Decimal Fractions); Algebra (including Simple Equations); Geometry (first two books of Euclid); Latin (Translation and Grammar); and one of the following optional subjects: Greek, French, German, Natural Philosophy, including Mechanics, Hydrostatics, and Pneumatics. Graduates in Arts of recognised Universities are not required to submit to the Matriculation Examination; and a certificate of having passed this examination before the College of Physicians and Surgeons of Ontario or of Quebec is accepted.

Candidates for the degree of Doctor of Medicine and Master of Surgery must be 21 years of age, must have studied medicine four years, one Session being at this School, and must pass the necessary examinations. Graduates in Arts of recognised Universities, and students who produce evidence of having studied a year with a physician subsequent to passing the Matriculation Examination, can qualify for examination after attendance on three Sessions.

Candidates for the Final Examination must furnish testimonials of attendance on the following courses: Anatomy, Chemistry, Materia Medica and Pharmacy, Institutes of Medicine, Principles and Practice of Surgery, Midwifery and Diseases of Women and Children, Theory and Practice of Medicine, Practical Anatomy, Clinical Medicine, Clinical Surgery—each two six-months' courses; Medical Jurisprudence—one course of six months or two courses of three months; Practical Chemistry, Botany or Zoology, Hygiene—each one three-months' course duration; not less than twenty-five Demonstrations upon Microscopic Anatomy, Physiology, and Pathology. Testimonials equivalent to, though not precisely the same as those above stated, may be presented and accepted. The Candidate must have attended during eighteen months the practice of the Montreal General Hospital, or that of some other approved Hospital, and have compounded medicines for six months. He must also have attended for at least six months the practice of the University or other approved Lying-in Hospital, and have attended at least six Accouchements.

The examinations at the close of each session are arranged as follows: *First Year.*—Elementary Anatomy and Physiology; Chemistry (Chemical Physics and Chemical Philosophy); Materia Medica; Practical Anatomy; Botany. *Second Year.*—Primary Pass Examination—Anatomy; Practical Anatomy; Physiology; Chemistry; Practical Chemistry; Materia Medica. *Third Year.*—Sessional Examination—Medical Jurisprudence, with Toxicology; Hygiene;* Medicine; Surgery; Midwifery. *Fourth Year.*—Final Pass Examination—Medicine, Surgery, Midwifery, Clinical Medicine, Clinical Surgery, Medical Anatomy, Surgical Anatomy.

The Sessional Examinations at the close of the first and third years are compulsory. At the Primary Examination at the end of the second year, the student may leave two branches for the third year; in any case, Chemistry and one other must be taken at the end of the second year.

The Collegiate Courses of the School are a Winter Session, extending from the 1st of October to the

* May be taken at the end of the second year.

end of March, and a Summer Session, from the end of the first week in April to the end of the first week in July. The fifty-first session will commence on October 1st. The following constitute the Faculty of Medicine :—Dr. J. W. Dawson (Natural History), Principal; Dr. R. P. Howard, Dean; Dr. W. Wright (*Emeritus*); Dr. Robert P. Howard (Theory and Practice of Medicine); Dr. Duncan C. McCallum (*Emeritus*); Dr. R. Craik (*Emeritus*); Dr. G. E. Fenwick (Surgery); Dr. J. M. Drake (*Emeritus*); Dr. G. P. Girdwood (Chemistry); Dr. George Ross (Clinical Medicine); Dr. William Osler (Institutes of Medicine); Dr. Thomas G. Roddick (Clinical Surgery); Dr. William Gardner (Gynæcology); Dr. F. J. Shepherd (Anatomy); Dr. F. Buller (Ophthalmology); Dr. A. A. Browne (Obstetrics); Dr. J. Stewart (Materia Medica and Therapeutics); Dr. G. Wilkins (Medical Jurisprudence); Dr. D. P. Penhallow (Botany); and also by Dr. R. Likardonnell (Demonstrator of Anatomy, and Lecturer on Hygiene); Dr. W. Sutherland and Dr. R. J. B. Howard (Assistant Demonstrators of Anatomy); Dr. George W. Major (Instructor in Laryngology); Dr. Alex. D. Blackader (Instructor in Diseases of Children); and Dr. T. W. Mills (Demonstrator of Physiology).

Students from Ontario and Quebec are advised to pass the Matriculation Examination of the Medical Councils of their respective Provinces before entering upon their studies. Students from the United States and Maritime Provinces must present themselves for the Matriculation Examination of the University, on the first Friday of October, or the last Friday of March.

The Montreal General Hospital has an average number of 150 patients in the wards, the majority of the cases being acute. The shipping and large manufactories contribute many examples of accidents and surgical cases. In the out-door department there is a daily attendance of between 75 and 100 patients, which affords excellent instruction in minor surgery, routine medical practice, venereal diseases, and the diseases of children. Clinical clerkships and dresserships can be obtained on application to the members of the Hospital staff. The University Dispensary was established for the purpose of affording to senior students practical instruction in diseases of women. Two other special departments have been added, viz.: Diseases of Children and Diseases of the Skin.

The clinical teaching is conducted in the wards and theatre of the General Hospital, daily, throughout the Session. Ample opportunities are afforded to the student to investigate the cases.

The fees arranged according to years, are as follows :—First year, 76 dollars; second year, 89 dollars; third year, 74 dollars; fourth year, 64 dollars; Hospital Ticket (six months), 8 dollars; Lying-in-Hospital (six months), 8 dollars; Graduation, 20 dollars. All fees are payable strictly in advance.

COLLEGE OF PHYSICIANS AND SURGEONS OF QUEBEC.

Every medical student of the province of Quebec, before beginning his professional studies, must pass a satisfactory examination upon the following subjects : English and French, Latin, Geography, History, Arithmetic, Algebra, Geometry, and Belles-Lettres, and upon any one of the following subjects : Greek, Natural and Moral Philosophy. He must also present a certificate of a good moral character.

The examination is oral and written; and the oral part of the examination is conducted jointly by two examiners, one speaking French and the other English.

The Board may recognise an equivalent preliminary examination before any authorised College or Licensing Board in Her Majesty's Dominion, provided that the same privilege is accorded to the students of this province.

Every medical student must pursue his professional studies during not less than four years from the time of his having passed the Preliminary Examination. Of the four years, three six months' sessions at least must be passed in attendance upon lectures at an University, College, or incorporated School of Medicine recognised by this Board, the first whereof shall be so passed the year immediately succeeding the Preliminary Examination. Every student must pursue the following curriculum of study : General or Descriptive Anatomy, Practical Anatomy, Surgery, Practice of Medicine, Midwifery, Chemistry, Materia Medica and General Therapeutics, the Institutes of Medicine or Physiology, and General Pathology, Clinical Medicine, Clinical Surgery, two six months' courses of each; Medical Jurisprudence, a course of six months, or two courses of three months; Botany and Hygiene, a three months' course of each; and a course of not less than twenty-five demonstrations upon Microscopic Anatomy, Physiology, and Pathology. He must attend the general practice of an Hospital containing not less than fifty beds, under the charge of not less than two physicians or surgeons, for not less than eighteen months, or for three periods of not less than six months each. He must attend six cases of labour, and compound medicine for six months. Each six months' course must consist of 120 lectures except those of Clinical Medicine, of Clinical Surgery, and of Medical Jurisprudence.

The total duration of the examination is one hour and forty-five minutes.

Before examination the candidate must deposit the required fee, and produce satisfactory evidence that he has attained the full age of twenty-one years, and that he has complied with the rules and regulations of the Board.

Fees.—These are : Preliminary or Matriculation Examination, 10 dollars; Diploma or Licence to Practice, 20 dollars; annual subscription, 2 dollars; registration of additional degrees or title, 1 dollar. If a Candidate for the Licence or for the Preliminary Examination be rejected, he forfeits half the fees.

BISHOP'S COLLEGE UNIVERSITY FACULTY OF MEDICINE, MONTREAL.

This University confers the degrees of Doctor of Medicine and Master of Surgery. The degree of Master of Surgery (C.M.) is not conferred on any person who does not at the same time obtain the degree of Doctor of Medicine (M.D.). Each student must undergo, prior to the commencement of his medical studies, a Preliminary Examination upon the following subjects : English, French, Latin, Arithmetic, Algebra, Geometry, History, Belles-Lettres, and one of the following optional subjects : Greek, Natural and Moral Philosophy. Candidates for degrees must have been engaged uninterruptedly for four years in medical and surgical study; but a certificate

of having studied one full year with a duly licensed practitioner reduces the period of study at the University to three sessions. Students must matriculate afresh at the commencement of every session, on or before the 1st of December. Every candidate for graduation must give sufficient evidence by certificates: 1. That he has attended two six months' courses of lectures on each of the following subjects: (*a*) General or Descriptive Anatomy, Principles and Practice of Surgery, Theory and Practice of Medicine, Midwifery and Diseases of Women and Children, Chemistry, Materia Medica, and Therapeutics, and Physiology; (*b*) One six months' course or two three months' courses of Medical Jurisprudence, one six months' course of Pathology, one three months' course of Botany, of Hygiene, and also of Practical Chemistry and Microscopy, and also a course of not less than twenty-five demonstrations upon Microscopic Anatomy, Physiology and Pathology; (*c*) Not less than two six months' courses of Clinical Medicine and Clinical Surgery; (*d*) Two six months' courses of Practical Anatomy; (*e*) That he has attended for at least eighteen months, or three periods of six months each, the medical and surgical practice of a hospital in which are contained not less than fifty beds, under the charge of not less than two physicians or surgeons, and that he has been engaged for at least six months in compounding and dispensing medicines. That he has attended at least six cases of midwifery.

Of the four years of medical and surgical study one full course on each branch mentioned in sections *a* and *b* must be attended in this University.

Every candidate for the degree must, on or before the 1st day of March, deliver to the Dean of the Medical Faculty, a declaration in his own handwriting that he has completed his twenty-first year of age (or that he will have done so before the day of graduation); and a statement of his studies, accompanied with proper certificates.

Every candidate is examined both in writing and *vivâ voce*. The Examinations are divided into Primary and Final. The Primary Examination comprehends Anatomy, Chemistry, Practical Chemistry, Materia Medica, Physiology, and Botany or Zoology. The Final Examination includes Practice of Medicine, Clinical Medicine, Surgery, Clinical Surgery, Midwifery and the Diseases of Women and Children, Medical Jurisprudence, Pathology, and Hygiene.

Candidates may be admitted to examination on the Primary branches at the end of the third year of their study. The Final Examination does not take place until the candidate has completed his fourth year.

Fees.—The fees for the classes of Pathology, Hygiene, Botany, and Practical Anatomy, are 6 dollars each; Medical Jurisprudence, 10 dollars; Practical Histology, 16 dollars; all other classes, 12 dollars each. Degree of Doctor of Medicine and Master in Surgery, 20 dollars; Registration Fee, 1 dollar.

HALIFAX UNIVERSITY AND MEDICAL COLLEGE.

CANDIDATES for the degree of Doctor of Medicine must have attended lectures for at least four years after passing the Matriculation Examination. This examination comprises the following subjects: 1. *Compulsory:* English Language (including Grammar, Composition, and Writing from Dictation); Arithmetic (including Vulgar and Decimal Fractions and the Extraction of the Square Root); Algebra (to the end of Simple Equations); Geometry (first two books of Euclid); Latin (one book, Translation and Grammar). 2. *Optional:* One of the following subjects: History of England, with questions in Modern Geography; French Translation; German Translation; One Greek Book; Natural Philosophy (including Mechanics, Hydrostatics, and Pneumatics); History of Nova Scotia; History of the Dominion of Canada. The fee is five dollars, and is not returned in cases of failure. Candidates for this examination must be at least 16 years of age. Graduates in Arts of recognised Universities are not required to pass the Matriculation Examination.

Instruction in medicine in the surgery of a recognised practitioner for one year is received as equivalent to a year of study.

The professional examination is divided into primary and final. The former comprises Anatomy, Chemistry, Materia Medica, Physiology and Botany, or Zoology; the latter, Medicine, Surgery, Obstetrics, and Medical Jurisprudence. Candidates may present themselves for the primary examination at the end of the third session, or third year of study.

Candidates for the final examination must produce certificates of having attended two six months' courses each of Anatomy, Chemistry, Materia Medica, Physiology, Surgery, Midwifery, Medicine, Practical Anatomy, Clinical Medicine, and Clinical Surgery; one three months' course each of Practical Pharmacy, Medical Jurisprudence, Botany, and Practical Chemistry; the practice of a recognised Hospital during twelve months; the practice of a Lying-in Hospital for at least six months (or of having attended at least six cases of labour); of having had three months' practice in Dispensing; and of having acquired proficiency in the practice of Vaccination. One session at least must be attended in the Halifax Medical College. Each candidate must present a thesis on some medical or surgical subject, and sign a declaration that he is twenty-one years of age. The examination is oral and written, in all branches; and there is a Clinical Examination in Medicine and Surgery at the bedside.

The fee for the degree of Doctor of Medicine and Master of Surgery is twenty dollars, with a registration fee of one dollar.

COLLEGE OF PHYSICIANS AND SURGEONS OF ONTARIO.

ALL persons, whatever qualifications they may possess, must be examined by this College in order to obtain a licence to practise in the province of Ontario.

Candidates for the membership of this College must spend four years (forty-eight months) in professional studies after having passed a matriculation examination in the English Language, Arithmetic, Algebra (including Simple Equations), Geometry (first two books of Euclid), Latin (Translation and Grammar), and either Greek, French, German, or Natural Philosophy (including Mechanics, Hydrostatics, and Pneumatics). Graduates in Arts, or students who have matriculated in Arts in any University in the British dominions, are not required to pass the Matriculation Examination; and Graduates in Arts may pass the final examination at the end of three years.

Every candidate must have attended, in an Uni-

versity, college, or school of medicine, two courses of six months each, in Anatomy, Practical Anatomy, Physiology (including Histology), Theoretical Chemistry, Materia Medica and Therapeutics, Medicine, Surgery, Midwifery and Diseases of Women and Children, Clinical Medicine and Clinical Surgery; one course of six months, or two courses of three months each, in Medical Jurisprudence; one course of three months in Practical Chemistry and on Botany; one course of not less than twenty-five demonstrations on Histology, Physiology, and Pathology; and one course of twenty-five lectures on Sanitary Science.

The Professional Examination is divided into primary and final. The Primary Examination, at the end of the second winter session, comprises Descriptive Anatomy, Physiology and Histology, Theoretical and Practical Chemistry, Toxicology, Sanitary Science, and Botany. (Graduates in Arts who have attended one course of lectures on Botany, and two on Theoretical Chemistry, and have passed an examination in these subjects, are not subjected to further examination thereon.) The Final Examination comprises Medical and Surgical Anatomy, Theory and Practice of Medicine and Medical Pathology, Surgery and Operative Surgery, Midwifery and Diseases of Women and Children, Operative Midwifery, Medical Jurisprudence, and Materia Medica and Therapeutics.

Before being admitted to the Final Examination the candidate must have spent six months in the office of a regularly qualified medical practitioner in dispensing medicine, have attended the practice of a general hospital for twenty-five months, have attended six courses of Midwifery, and have attained the age of twenty-one years.

The Primary Examination is entirely oral, the Final is entirely written. Any candidate who fails in any one branch at the Primary Examination is held to have failed in all. Any candidate who passes in four or more branches at the Final Examinations, but fails in the others, is required to pass in the latter only at a subsequent examination. Persons intending to practise Homœopathy are on application examined by Homœopathic Examiners.

Persons from recognised colleges outside the provinces of Ontario and Quebec must pass the matriculation examination, and afterwards attend one full winter course of lectures during two winter sessions in some one of the Ontario Medical Schools, and such other course or courses as may be necessary to complete the required curriculum; and must pass all the examinations.

The *Fees* are: Matriculation Examination, 10 dollars; Registration, for students not examined by the College Examiners, 10 dollars; Primary Examination, 20 dollars; Final Examination, including Registration, 30 dollars; Diploma of Membership, 10 dollars; annual contribution from members of the College, 1 dollar. No portion of the examination fees is returned to unsuccessful candidates.

TEXT-BOOKS.

The object of the subjoined notes is to inform the student, in general terms, of the works which he may use as text-books. The list is not intended to be exclusive: nor is it our purpose to say always which book is the best in any subject. Some students learn best from one book; others from another. Again, some books are more adapted than others to the teaching of the school to which the pupil belongs. In addition to the ordinary text-books, reference will be made to some which, though not absolutely necessary to the student, may be studied with advantage.

ANATOMY AND PHYSIOLOGY.

Besides the symptoms of the anatomy of the bones in the chief text-books, such as those of Quain and Wilson, there are also some special works on the subject. Among them are Mr. Luther Holden's *Human Osteology* (sixth edition, J. & A. Churchill). The same firm publishes a *Student's Guide to Osteology*, by Mr. Wagstaffe. There is also Mr. Norton's *Osteology for Students* (Baillière, Tindal, & Cox). The anatomy of the joints is especially and ably treated in Mr. Henry Morris's *Anatomy of the Joints of Man* (J. & A. Churchill). For the early study of anatomy, Mr. St. George Mivart's *Elementary Lessons in Anatomy* (Macmillan & Co.) will be found instructive. The interest of the subject is increased by a demonstration of the chief relations of the structure of man to that of other animals. Among the indispensable text-books treating of human anatomy as a whole are, Quain's *Elements of Anatomy* (Longmans & Co.), edited by Drs. Sharpey and Allen Thomson, and Dr. Schäfer; Gray's *Anatomy* (Longmans), edited by Mr. Holmes; and Wilson's *Anatomist's Vade-Mecum*, tenth edition, by Dr. G. Buchanan and Mr. H. E. Clark of Glasgow (J. & A. Churchill). The first volume of a work on *Human Morphology, a Treatise on Practical and Applied Anatomy*, by Mr. H. A. Reeves (Smith, Elder, & Co.), has appeared this year. For use in the dissecting-room, Ellis's *Demonstrations of Anatomy* (ninth edition, Smith, Elder, & Co.) has long established its claim as a trustworthy guide. It contains reduced copies of plates in the author's *Illustrations of Dissections*—a work which from its price few students can purchase, but which is most valuable for assistance. Other good books for dissectors are Mr. Christopher Heath's *Practical Anatomy* (fifth edition, J. & A. Churchill); Dr. Carrington's (*Manual of Dissections of the Human Body* (George Bell & Sons); Holden & Langton's *Manual of the Dissection of the Human Body* (fourth edition, J. & A. Churchill); Dr. Cleland's *Directory for the Dissection of the Human Body* (second edition, Smith, Elder, & Co.); and a *Dissector's Guide*, with illustrations, by Dr. D. J. Cunningham (Maclachlan & Stewart). Messrs. Hensman & Fisher's *Anatomical Outlines for the Use of Students in the Dissecting-room and Surgical Classroom* (Longmans & Co.) are useful. Braune's *Atlas of Topographical Anatomy*, translated and edited by Mr. Bellamy (J. & A. Churchill), is a valuable book for reference. The drawings are made from plane sections of foreign bodies. There are also Professor W. Turner's *Atlas of Human Anatomy* (A. Johnston), Bock's *Atlas of Human Anatomy* (Renshaw), Mr. Godlee's *Atlas of Human Anatomy* (J. & A. Churchill), and Allen & Shakespeare's *System of Human Anatomy* (Henry Kimpton), also Mr. Flower's *Diagrams of the Nerves of the Human Body* (third edition, J. & A. Churchill). *A Descriptive Atlas of Anatomy*, by Mr. Noble Smith, has been published by Smith, Elder, & Co. There are also the well-known Quain and Wilson's Anatomical

Plates (Smith, Elder, & Co.). Mr. Thomas Cooke's *Tablets of Anatomy and Physiology* (second edition) contain much information in a condensed form, and give useful aid in the study of the larger works. To students interested in the study of Zoology and Comparative Anatomy, we would recommend, as works that will give much information without being too large or costly, Mr. Flower's *Osteology of the Mammalia* (Macmillan & Co.), and Dr. H. A. Nicholson's *Manual of Zoology*, and *Advanced Text-Book of Zoology* (Blackwood); as well as Huxley's *Manuals of the Anatomy of Vertebrated and Invertebrated Animals* (J. & A. Churchill), Huxley and Martin's *Practical Biology*, and Dr. Macalister's *Manuals of Zoology of the Invertebrate and of the Vertebrate Animals* (Longmans & Co.). Professor Gegenbaur's *Elements of Comparative Anatomy*, translated by Mr. F. J. Bell (Macmillan & Co.) is a very complete work. For the study of Embryology, the chapter by Dr. Allen Thomson in Quain's *Anatomy*, or the *Elements of Embryology*, by Dr. M. Foster and Mr. Balfour (second edition, Macmillan & Co.), should be consulted. The subject has been most ably treated by the late Mr. Balfour in a *Treatise on Comparative Embryology* (Macmillan & Co.).

For instruction in Histology, Mr. Schäfer's *Course of Practical Histology* (Smith, Elder, & Co.), Dr. Stirling's *Text-Book of Practical Histology* (Smith, Elder, & Co.), and Dr. Klein's *Elements of Histology* (second edition, Cassell & Co.), are excellent guides; as is also the chapter on General Anatomy in Quain's *Anatomy*. A third edition of Dr. Rutherford's *Outlines of Practical Histology* (J. & A. Churchill) is in course of preparation. The *Atlas of Histology*, by Dr. E. Klein and Mr. Noble Smith (Smith, Elder, & Co.), is a valuable work for reference. Other works which will be found useful are Professor Stricker's collection of essays on *Human and Comparative Histology* (New Sydenham Society), Heinrich Frey's *Histology and Histo-Chemistry of Man*, translated by Mr. Barker (J. & A. Churchill), and Dr. Satterthwaite's *Manual of Histology* (Sampson Low & Co.).

In Physiology, the beginner will find trustworthy guides in Huxley's *Lessons in Elementary Physiology* and Huxley and Martin's *Elementary Biology* (both published by Macmillan & Co.); and, as text-books for use in medical schools, Dr. McKendrick's *Outlines of Physiology in its Relation to Man* (Maclehose, Glasgow; and Macmillan & Co.), Kirkes's *Handbook of Physiology*, edited by Mr. Morrant Baker (tenth edition, John Murray), and Dr. Michael Foster's *Text-book of Physiology* (fourth edition, Macmillan & Co.), are to be recommended; and for more advanced students, Dr. L. Hermann's *Elements of Physiology*, translated by Professor Gamgee (second edition, Smith, Elder, & Co.), Flint's *Text-Book of Human Physiology* (H. K. Lewis), and Dr. Carpenter's *Principles of Human Physiology*, by Mr. Power (ninth edition, J. & A. Churchill). The increased study in recent years of Practical Physiology has led to the publication of several guides to this department. Dr. Burdon Sanderson has prepared a manual of *Practical Exercises in Physiology* (second edition, H. K. Lewis). *An Elementary Course of Practical Physiology* by Dr. M. Foster and Mr. Langley (Macmillan & Co.) is also a book that can be recommended to beginners; while the more elaborate *Handbook for the Physiological Laboratory*, by Drs. Sanderson, Klein, Foster, and Brunton (J. & A. Churchill), is more fitted for those who desire an extended knowledge of practical physiology.

As guides in the use of the Microscope, there are Dr. Beale's *Microscope in Medicine*, Dr. Carpenter on the *Microscope* (sixth edition, J. & A. Churchill), Wythe's *Microscopist's Manual* (third edition, J. & A. Churchill), Marsh's *Microscopical Section-Cutting* (second edition, J. & A. Churchill), Martin's *Manual of Microscopic Mounting* (second edition, J. & A. Churchill), and Dr. Heneage Gibbes's *Practical Histology and Pathology* (H. K. Lewis).

CHEMISTRY.

IN Chemistry, among the most approved text-books, are Fownes' *Manual of Chemistry*, edited, in two volumes, Inorganic and Organic, by Mr. Watts (twelfth edition, J. & A. Churchill); Roscoe's *Lessons in Elementary Chemistry*; Miller's *Elements of Chemistry* (Longmans & Co.); Bloxam's *Chemistry, Inorganic and Organic* (fifth edition, J. & A. Churchill); Williamson's *Chemistry for Students* (Macmillan & Co.); and Tidy's *Handbook of Modern Chemistry* (J. & A. Churchill). A little book by Mr. R. M. Murray, entitled *Chemical Notes and Equations for the Use of Students* (Maclachlan & Stewart), gives an useful outline of the fundamental principles of chemical science. An elaborate *Treatise in Chemistry*, by Professors Roscoe and Schorlemmer, of Owens College, Manchester, is in course of publication by Macmillan & Co.; Bowman and Bloxam's *Practical Chemistry*, seventh edition (J. & A. Churchill), has an established reputation as a practical guide.

For instruction in Physiological Chemistry, there is Dr. Ralfe's *Outlines of Physiological Chemistry* (H. K. Lewis). Dr. Arthur Gamgee is the author of a *Text-book of the Physiological Chemistry of the Animal Body* (Macmillan & Co.), of which the first volume has been published. A second edition of Dr. Thudichum's *Pathology of the Urine* has been published by J. & A. Churchill.

BOTANY.

THE text-books of Botany in most general use are Bentley's *Manual of Botany* (fourth edition, J. & A. Churchill); Bentley's *Student's Guide to Botany* (Churchill); Henfrey's *Elementary Course of Botany*, third edition, by Dr. M. T. Masters (Van Voorst); Balfour's *Manual of Botany* (A. & C. Black); Oliver's *Lessons in Elementary Botany* (Macmillan & Co.); Prantl and Vines' *Text-book of Botany*. Sach's *Text-book of Botany*, translated by Mr. A. W. Bennett and Mr. W. T. Dyer (Macmillan & Co.) is a valuable work of reference in regard to Structural and Physiological Botany. Bentley and Trimen's admirable plates of *Medicinal Plants* (J. & A. Churchill) should be consulted by the student both of Botany and of Materia Medica.

MATERIA MEDICA AND THERAPEUTICS.

A WELL-KNOWN and useful book as a manual of materia medica is Dr. Garrod's *Essentials of Materia Medica and Therapeutics*, edited by Dr. Buchanan Baxter (sixth edition, Longmans & Co.). It requires however, to be supplemented by a treatise on therapeutics; for which purpose Dr. Ringer's *Handbook*

of Therapeutics (tenth edition, H. K. Lewis), Dr. Waring's *Manual of Practical Therapeutics* (third edition, J. & A. Churchill), Dr. Alexander Harvey's *First Lines of Therapeutics* (H. K. Lewis), Dr. Farquharson's *Guide to Therapeutics* (third edition, Smith, Elder, & Co.), and Dr. Sparks's edition of Binz's *Elements of Therapeutics* (J. & A. Churchill), are to be recommended. Dr. Milner Fothergill's *Practitioner's Handbook of Treatment* (second edition, Macmillan & Co.) will be of value to those who are interested in the endeavour to show the agreement between science and practice. Dr. H. C. Wood's *Treatise on Therapeutics* (Smith, Elder, & Co.) pays special attention to the therapeutic action of drugs. Other useful books are Dr. W. G. Smith's *Commentary on the British Pharmacopœia* (Smith, Elder, & Co.), Royle and Harley's *Manual of Materia Medica and Therapeutics* (sixth edition, J. & A. Churchill), Neligan's *Medicines*, edited by Mr. Macnamara (Fannin & Co.), Dr. Phillips's *Materia Medica and Therapeutics* (J. & A. Churchill); Dr. Whitla's *Pharmacy, Materia Medica and Therapeutics* (Renshaw); Dr Scoresby-Jackson's *Note-Book of Materia Medica*, edited by Dr. Moinet (fourth edition, Maclachlan & Stewart, and Simpkin, Marshall, & Co.), Dr. Handsel Griffiths' *Materia Medica and Pharmacy*, edited by Dr. Duffey (Baillière, Tindal, & Cox; and Fannin & Co., Dublin), Dr. R. Bartholow's *Practical Treatise on Materia Medica and Therapeutics* (H. K. Lewis), Thorowgood's *Student's Guide to Materia Medica* (second edition, J. & A. Churchill), Craig's *Manual of Materia Medica and Therapeutics* (fourth edition, Livingstone, Edinburgh; and Simpkin, Marshall, & Co.), Dr. Phillips's *Materia Medica and Therapeutics* (J. & A. Churchill), and Dr. Isambard Owen's manual of *Materia Medica*. Dr. Lauder Brunton's *Tables of Materia Medica* (new edition, Smith, Elder, & Co.) form a most comprehensive and valuable syllabus, and will be very useful to the student. Dr. W. H. Griffiths' *Lessons on Prescriptions, and the Art of Prescribing* (Macmillan & Co.) is a useful work. Messrs. Bentley & Trimen's *Medicinal Plants* has been mentioned under the head of Botany.

As text-books in the application of Electricity to Medicine, besides Dr. Althaus's *Treatise on Medicinal Electricity* (Longmans & Co.), the following are likely to prove useful to students; viz.—a *Text-Book of Electricity in Medicine and Surgery*, by Dr. G. V. Poore (Smith, Elder, & Co.); a *Handbook of Medical and Surgical Electricity*, and *How to Use a Galvanic Battery*, by Dr. H. Tibbits (second edition, J. & A. Churchill); Mr. A. de Watteville's *Practical Introduction to Medical Electricity* (H. K. Lewis); Dr. Robert Bartholow's *Medical Electricity* (Kimpton); and Dr. Hughes Bennett's *Electro-Diagnosis in Diseases of the Nervous System* (Lewis).

PATHOLOGY.

As a manual of pathology, Dr. T. H. Green's *Introduction to Pathology and Morbid Anatomy* (Renshaw) has gained a deservedly high reputation. The *Lectures on Pathological Anatomy* of Drs. Wilks and Moxon (second edition, J. & A. Churchill), and Dr. J. F. Payne's improved edition of Jones and Sieveking's *Manual of Pathological Anatomy* (J. & A. Churchill), are also good books. The first part of a translation of Dr. Ziegler's *Tenth-Book of Pathological Anatomy and Pathogenesis*, by Mr. D. MacAlister (Macmillan & Co.) has lately appeared. A second edition of an English translation of Virchow's treatise on *Post Mortem Examinations: the Method of Performing them*, is published by J. & A. Churchill. Messrs. Smith, Elder, & Co. have published a *Manual of Necroscopy*, by Dr. A. H. Newth, which is intended as a guide to the performance of *post mortem* examination. A work on *Surgical Pathology* by Mr. A. J. Pepper (Cassell & Co.) is announced. We would also strongly recommend students to consult, and to possess, if possible, Rindfleisch's *Manual of Pathological Histology*, edited by the New Sydenham Society. Other highly valuable works for reference are Dr. Greenfield's translation of Lancereaux's *Atlas of Pathological Anatomy* (J. & A. Churchill), and an English translation of a *Manual of Pathological Anatomy*, by Cornil and Ranvier (Smith, Elder, & Co.)

MEDICINE.

For the student who is commencing his clinical studies there are several very good guide-books. Among them are Dr. A. W. Barclay's *Manual of Medical Diagnosis* (third edition, J. & A. Churchill), Dr. S. Fenwick's *Student's Guide to Medical Diagnosis* (fifth edition, J. & A. Churchill); Dr. O. Sturges' *Introduction to the Study of Clinical Medicine* (Smith, Elder, & Co.); Dr. Finlayson's *Clinical Manual for the Study of Medical Cases* (Smith, Elder, & Co.); Dr. J. Little's *Note-book for Students beginning the Study of Disease at the Bedside* (third edition, Fannin & Co); and Dr. Warner's *Student's Guide to Medical Case-taking* (J. & A. Churchill.) More advanced students and practitioners may consult with advantage Dr. Da Costa's *Medical Diagnosis* (third edition, Smith, Elder, & Co.). As a guide in physical diagnosis, Dr. Gee's *Auscultation and Percussion* (third edition, Smith, Elder, & Co.) may be safely trusted. Other useful books for the same purpose are Dr. Flint's *Manual of Percussion and Auscultation* (J. & A. Churchill); Dr. Reginald Thompson's *Physical Examination of the Chest in Health and Disease* (H. Renshaw); Dr. S. West's *How to Examine the Chest.*

Among text-books in General Medicine, which may be recommended for the use of the student, are Dr. F. T. Roberts's *Handbook of the Theory and Practice of Medicine* (fifth edition, H. K. Lewis), Dr. J. S. Bristowe's *Treatise on the Theory and Practice of Medicine* (fourth edition, Smith, Elder, & Co.), Dr. Tanner's *Practice of Medicine* (edited by Dr. Broadbent), Dr. Aitken's *Science and Practice of Medicine* (seventh edition, C. Griffin & Co.); Dr. H. Hartshorne's *Essentials of the Principles and Practice of Medicine* (fifth edition, Smith, Elder, & Co.); Dr. Aitken's *Outlines of the Science and Practice of Medicine* (second edition, C. Griffin & Co.); Dr. Flint's *Principles and Practice of Medicine* (fifth edition, Kimpton); Dr. Charteris's *Student's Guide to the Practice of Medicine* (third edition, J. & A. Churchill); and Dr. A. Carter's *Elements of Practical Medicine* (second edition, Lewis). The advanced student and the practitioner will do well to consult Dr. Russell Reynolds' *System of Medicine* (five volumes, Macmillan & Co.); Trousseau's *Lectures on Clinical Medicine* (New Sydenham Society); Ziemssen's *Cyclopædia of the Practice of Medicine* (Sampson

Low & Co.); Dr. Niemeyer's *Text-Book of Practical Medicine* (H. K. Lewis); Sir Thomas Watson's *Lectures on the Principles and Practice of Physic* (Longmans & Co.)

SURGERY.

MR. ERICHSEN'S *Science and Art of Surgery* (seventh edition, Longmans & Co.), Mr. Holmes's *Surgery—its Principles and Practice* (third edition, Smith, Elder, & Co.), Mr. Bryant's *Practice of Surgery* (third edition, J. & A. Churchill), and Mr. Gant's *Science and Practice of Surgery* (second edition, Baillière, Tindall, & Cox), are all very complete works, one of which should be in the possession of the student. For those who prefer smaller and more condensed works, there is the well-known Druitt's *Surgeon's Vade-Mecum* (eleventh edition, J. & A. Churchill). Mr. Christopher Heath has brought out a *Student's Guide to Surgical Diagnosis* (seventh edition, J. & A. Churchill). Among the works more specially devoted to Practical Surgery, a foremost place is held by the late Sir William Fergusson's excellent *System of Practical Surgery* (fifth edition, J. & A. Churchill). Other books which may be consulted with advantage are, Mr. Holmes's *System of Surgery* (Longmans & Co.), Mr. Spence's *Lectures on Surgery* (A. & C. Black), Dr. S. D. Gross's *System of Surgery* (sixth edition, Smith, Elder, & Co.), and Billroth's *Lectures on Surgical Pathology and Therapeutics* (New Sydenham Society). Mr. Watson Cheyne's *Antiseptic Surgery* (Smith, Elder, & Co.) is a standard work on the subject of which it treats.

For the guidance of the student who is being instructed in practical and operative surgery, there are several good books. Mr. Christopher Heath's *Manual of Minor Surgery and Bandaging* (seventh edition, J. & A. Churchill) has for several years enjoyed a high reputation. The *Manual of Operative Surgery on the Dead Body*, by Mr. Thomas Smith and Mr. Walsham (Longmans & Co.); Mr. Berkeley Hill's *Essentials of Bandaging* (fifth edition, Lewis); Mr. Bellamy's *Student's Guide to Surgical Anatomy* (second edition, J. & A. Churchill); Mr. Joseph Bell's *Manual of the Operations of Surgery* (fourth edition, Maclachlan & Stewart); and Stimson's *Operative Surgery* (Lewis), are also works which can be recommended. A *Manual of Regional Surgery*, by Mr. F. A. Southam (J. & A. Churchill), is in course of publication. Other larger works, most valuable for reference—and to be procured by the student if possible—are Mr. Jonathan Hutchinson's *Illustrations of Clinical Surgery*, consisting of plates, woodcuts, &c., illustrating surgical diseases, symptoms, accidents, operations, &c. (published in fasciculi by J. & A. Churchill); Mr. C. Heath's *Course of Operative Surgery*, with coloured plates by M. Leveillé (J. & A. Churchill); and Mr. Norton's edition of Bernard and Huvette's *Text-Book of Operative Surgery* (Baillière, Tindall, & Cox); and Dr. Steven Smith's *Manual of the Principles and Practice of Operative Surgery* (Sampson Low & Co.). For the student of Military Surgery, Surgeon-General Longmore's work on *Gunshot Injuries* (Longmans & Co.) and Surgeon-Major Porter's *Surgeon's Pocket-Book* (second edition, C. Griffin & Co.), are essential. A translation, by Mr. Clutton, of Professor Esmarch's *Surgeon's Handbook on the Treatment of Wounded in War* (Sampson Low & Co.) is also a valuable work.

MIDWIFERY; AND DISEASES OF WOMEN AND CHILDREN.

THE text-books of Obstetric Medicine which hold the first place in the present day are, Dr. W. S. Playfair's *Treatise on the Science and Practice of Midwifery* (fourth edition, Smith, Elder, & Co.); and Dr. Leishman's *System of Midwifery* (third edition, J. Maclehose, Glasgow, and Macmillan & Co.) Every student should have one or the other of these. For those who prefer smaller books, Dr. D. Lloyd Roberts's *Student's Guide to the Practice of Midwifery* (second edition, J. & A. Churchill) will be useful; there are also Dr. Alfred Meadows's *Manual of Midwifery* (Renshaw); Milne's *Manual of Midwifery* (second edition, Livingstone, and Simpkin, Marshall, & Co.); and Dr. C. H. Carter's translation of Schröder's *Manual of Midwifery* (J. & A. Churchill). Drs. Robert and Fancourt Barnes are preparing a *Handbook on Obstetrics* (Smith, Elder, & Co.) As a work of illustrations, Dr. Martin's *Atlas of Obstetrics* and *Gynæcology*, edited by Dr. Fancourt Barnes (H. K. Lewis), is to be recommended. Dr. J. G. Swayne's *Obstetric Aphorisms* (seventh edition, J. & A. Churchill) are very useful. Dr. Barnes's *Lectures on Obstetric Operations* (third edition, J. & A. Churchill) should be in the possession of every advanced student and general practitioner; as should also the *Clinical History of the Medical and Surgical Diseases of Women*, by the same author (second edition, J. & A. Churchill). Dr. West's *Lectures on the Diseases of Women* (fourth edition, with additions by Dr. Matthews Duncan, J. & A. Churchill); Dr. Graily Hewitt's *Diagnosis and Treatment of Diseases of Women* (third edition, Longmans & Co.); Dr. Matthews Duncan's *Clinical Lectures on the Diseases of Women* (J. & A. Churchill); the late Dr. F. Churchill's work on the *Diseases of Women* (sixth edition, Fannin & Co.); Dr. Edis's *Diseases of Women* (second edition, Smith, Elder, & Co.); Mr. Lawson Tait's *Diseases of Women* (Williams & Norgate); Dr. Emmet's *Principles and Practice of Gynæcology* (second edition, J. & A. Churchill); Dr. Gaillard Thomas's *Practical Treatise on the Diseases of Women* (fifth edition, Kimpton); Dr. Heywood Smith's *Practical Gynæcology* (J. & A. Churchill); and Mr. Spencer Wells's treatise on *Ovarian and Uterum Tumours* (J. & A. Churchill), are all valuable books. Other books which will be found useful are Dr. Galabin's *Student's Guide to Diseases of Women* (second edition, J. & A. Churchill); Hart and Barbour's *Manual of Gynæcology* (second edition, Johnston); Dr. Halliday Croom's *Minor Gynæcological Operations and Appliances* (Livingstone, Edinburgh; and Simpkin, Marshall, & Co); and Dr. Courty's work on the *Diseases of the Uterus, Ovaries, and Fallopian Tubes*, translated by Dr. Agnes Maclaren (J. & A. Churchill).

Among text-books on Diseases of Children, must be mentioned Dr. West's well known *Lectures on the Diseases of Infancy and Childhood* (Longmans & Co.); Dr. Fleetwood Churchill's treatise on *The Diseases of Children* (third edition, Fannin & Co.); Dr. W. H. Day's *Manual on the Diseases of Children* (J. & A. Churchill); M. Guersant's *Surgical Diseases of Infants and Children*, translated by Dr. Dunglison (Smith, Elder, & Co); Meigs and Pepper's *Practical Treatise on the Diseases of Children* (H. K. Lewis); Dr. Eustace Smith's *Clinical Studies of Diseases in Children* (J. & A. Churchill); Dr. J. L. Smith's *Treatise on the Diseases of Infancy and Childhood*

(fourth edition, H. K. Lewis); Dr. Tanner and Dr. Meadows' *Practical Treatise on Diseases of Infancy and Childhood* (third edition, H. Renshaw); and Steiner's *Compendium of the Diseases of Children*, translated by Mr. Lawson Tait (J. & A. Churchill).

SPECIAL SUBJECTS.

THERE are several good text-books of the special departments which are taught in the schools.—For students of Psychological Medicine, the chief work is Bucknill and Tuke's *Manual of Psychological Medicine* (fourth edition, J. & A. Churchill). A volume of *Clinical Lectures on Mental Diseases*, by Dr. Clouston (J. & A. Churchill) is announced for October.—For students of Ophthalmic Surgery, Mr. R. B. Carter's *Treatise on Diseases of the Eye* (Macmillan & Co.); Mr. Nettleship's *Student's Guide to Diseases of the Eye* (second edition, J. & A. Churchill); Mr. Macnamara's *Manual of Diseases of the Eye* (fourth edition, J. & A. Churchill); Mr. Wharton Jones's *Manual of Ophthalmic Medicine and Surgery* (third edition, J. & A. Churchill); Mr. George Lawson's *Diseases and Injuries of the Eye* (fourth edition, Renshaw); Dr. H. W. Williams's *Diagnosis and Treatment and Diseases of the Eye* (Sampson Low & Co.); Mr. B. T. Lowne's *Handbook of Ophthalmic Surgery* (Smith, Elder, & Co.), are books that will be useful. Messrs. Churchill have also published the second edition of a little book by Mr. Charles Higgens, entitled *Hints on Ophthalmic Out-patient Practice*. Dr. de Wecker's *Ocular Therapeutics*, translated by Dr. Litton Forbes (Smith, Elder, & Co.); and Dr. Wolfe's work on *Diseases and Injuries of the Eye* (J. & A. Churchill), may be consulted with advantage. A second edition of a book by Mr. E. A. Brown, of the Liverpool Ear and Eye Infirmary, for instructing students *How to Use the Ophthalmoscope* (Trübner & Co.) is in preparation; *Manual and Atlas of Medical Ophthalmoscopy*, by Dr. Gowers (second edition, J. & A. Churchill), is a valuable work.—In Aural Surgery, Mr. Dalby's book on *Diseases and Injuries of the Ear* (second edition, J. & A. Churchill) is very good; there is also a book by Mr. G. P. Field on *Diseases of the Ear* (third edition, Renshaw); while Dr. Burnett's work on *The Ear: its Anatomy, Physiology, and Diseases* (J. & A. Churchill), and Dr. St. John Roosa's *Practical Treatise on Diseases of the Ear* (fourth edition, H. K. Lewis) are valuable and elaborate works. Dr. Macnaughton Jones has brought out a good *Practical Treatise on Aural Surgery* (second edition, J. & A. Churchill), and also a well-executed *Atlas of the Diseases of the Membrana Tympani and Auricle* (J. & A. Churchill).—For the use of students in Dermatology, there is the late Dr. Tilbury Fox's treatise on *Skin-Diseases, their Description, Pathology, Diagnosis, and Treatment* (new edition, H. Renshaw). Mr. Malcolm Morris's *Manual of Skin-Diseases* is a very reliable guide. Sir Erasmus Wilson's *Treatise on Diseases of the Skin*, and his *Lectures on Dermatology* (J. & A. Churchill) are well known and valuable works. Dr. Pullar has translated the *Text-Book of Skin-Diseases*, by Dr. Neumann of Vienna (Hardwicke & Bogue). Dr. R. Liveing's *Handbook on the Diseases of the Skin* (third edition, Longmans & Co.), is well deserving of recommendation; so also is Dr. McCall Anderson's *Treatment of Diseases of the Skin* (Macmillan & Co.). *A Practical Treatise on Diseases of the Skin*, by Dr. J. Nevins Hyde (J. & A. Churchill) has lately been published. Dr. Tilbury Fox has supplied an excellent *Atlas of Skin-Diseases* (Renshaw); while a work with a similar title by Dr. Duhring, of Philadelphia (Lippincott & Co.) is also very good.—For students of Dental Surgery, the following books are published by Messrs. J. & A. Churchill: Tome's *Manual of Dental Surgery* (second edition); Tome's *Manual of Dental Anatomy* (second edition); Taft's *Practical Treatise on Operative Dentistry* (third edition); Sewill's *Student's Guide to Dental Anatomy and Surgery* (second edition, Churchill); Stocken's *Elements of Dental Materia Medica and Therapeutics* (third edition); and Coles's *Manual of Dental Mechanics* (second edition). A *Manual of Dental Surgery and Pathology*, by Mr. A. Coleman, has been published by Smith, Elder, & Co.

FORENSIC MEDICINE AND HYGIENE.

AS elementary works of convenient size, and containing valuable instruction, Dr. A. S. Taylor's *Manual of Medical Jurisprudence* (tenth edition, J. & A. Churchill), Husband's *Medical Jurisprudence and Public Health* (private edition, Livingstone, and Simpkin, Marshall, & Co.), and Guy and Ferrier's *Principles of Forensic Medicine* (Renshaw) are to be recommended. The more advanced student and the practitioner should consult Dr. Taylor's *Principles and Practice of Medical Jurisprudence* (third edition, J. & A. Churchill); the *Hand Book of Forensic Medicine and Toxicology*, by the late Dr. Bathurst Woodman and Dr. Tidy (J. & A. Churchill); Dr. Ogston's *Lectures on Medical Jurisprudence* (J. & A. Churchill); and the translation of Casper's *Forensic Medicine*, published by the New Sydenham Society. The last-named book describes the manner in which medico-legal investigations are carried out on the Continent. The first part of a work on *Legal Medicine*, by Dr. C. M. Tidy (Smith, Elder, & Co.), is a valuable book.

Under the head of Hygiene the principal books are, Dr. Parkes's *Manual of Practical Hygiene*, edited by Dr. de Chaumont (sixth edition, J. & A. Churchill); Wilson's *Hand Book of Hygiene and Sanitary Science* (fifth edition, J. & A. Churchill); Dr. A. H. Buck's *Treatise on Hygiene and Public Health* (Sampson Low & Co.); Dr. de Chaumont's *Lectures on State Medicine* (Smith, Elder, & Co.); Hart's *Manual of Public Health* (Smith, Elder, & Co.); and Hart's *Truth about Vaccination* (Smith, Elder, & Co.)

REVIEWS.

ARTICLE 1277.

Politzer's Text-Book of the Diseases of the Ear. Translated and edited by J. PATTERSON CASSELLS, M.D., M.R.C.S., Eng. London: Baillière, Tindall, & Co. 1883.

IN a single volume of 800 pages, Dr. Cassells gives us an English version of Politzer's text-book, which in its original form appeared in two volumes. The work of translation must have been a laborious one; and we feel, therefore, grateful to Dr. Cassells for having undertaken it, and but little inclined to draw attention to any slight inaccuracies or to involved phrases which may have crept in here and

there. Dr. Cassells' merit does not, however, rest on the translation only, for he has added an appendix containing all the therapeutical formulæ throughout the work, in a form easy for reference, which materially increases the value and utility of the book. In this volume, all the diseases of the ear are treated systematically; but the style is so easy, and the treatment of the subject so thoroughly practical, that the work can be strongly recommended to the general practitioner. It is fully illustrated by woodcuts, those illustrating the appearance of the membrana tympani being in our opinion many of them excellent, and giving a better idea of the appearances seen than many coloured illustrations of diseased states of the membrane. It is much to be regretted, therefore, that the cuts, as reproduced in the English edition, are in many instances far inferior to the illustrations in the original.

There are many points to which we are tempted to refer after perusal of the book, but we are unable to do more than glance at one or two. The article on examination of the ear is very clear, and contains amongst numerous others an illustration of the author's universal acoumeter. A chapter is devoted to diseases of the naso-pharynx and nasal cavities, with reference to the diseases of the middle ear; and their importance is such, that no book on diseases of the ear could now be considered complete without a description of these affections. The author speaks favourably of Zaufal's speculum. One of the best articles in the book strikes us as being that on chronic purulent inflammation of the middle ear and its complications, in which all the newest methods of treating this obstinate affection are discussed and compared. In the treatment of polypi with caustics, the author recommends chloride of iron (either in crystals or solution) very strongly. He also speaks very highly of washing out the tympanic cavity by means of warm water injected through the Eustachian tube (by means of the catheter), not only in chronic purulent inflammation of the middle ear, but also in obstinate cases of acute suppuration, of course after the membrane is perforated.

In speaking of affections of the internal ear, the author admits that neither any special diagnostic guides, nor any peculiarity of the subjective symptoms and of the course of the disturbances of hearing alone, are sufficient for determining the diagnosis of an affection of the nerve. But experience, he finds, shows that only the total impression given by the results of the methods described, together with the causative conditions of the loss of hearing, with the peculiarities of the course and symptoms of the disease, can determine the diagnosis of an affection of the auditory nerve.

The work, which contains not only the fruits of the author's immense experience, but also the latest results of other observers in the same field, will be welcomed by all interested in the study of otology.

E. CRESSWELL BABER, M.B.

ARTICLE 1278.

Experimental Pharmacology. A Handbook of Methods for Studying the Physiological Action of Drugs. By L. HERMANN, Professor of Physiology in the University of Zürich. Translated with the Author's permission, with Notes and Additions, by ROBERT MEADE SMITH, M.D., Demonstrator of Physiology in the University of Pennsylvania. With thirty-two Illustrations on Wood. Philadelphia: Henry C. Lea & Co. 1883.

IT is with much satisfaction that we record the appearance in an English dress of Professor Hermann's well-known book on Pharmacology. This satisfaction is much enhanced by the able manner in which the translator has performed his task, his additions and annotations constituting nearly one-half the entire volume. In the introductory chapter, an excellent account is given of the object and scope of the science of Pharmacology. To this term we no longer assign the old significance which it bore as a synonym of materia medica. It now implies the science of the action of remedies, and the modes of investigation with which it deals are quite distinct from those followed in the study of pharmacy and pharmacognosy. It constitutes the chief basis for the application of remedies in disease, is closely allied to therapeutics, and may be regarded as the connecting-link between materia medica and the art of medicine. 'Pharmacology in its widest scope embraces the study of drugs from all possible points of view, and the information thereby acquired may be useful under the most diverse conditions; to the physician to enable the recognition and proper treatment of cases of poisoning, or to permit of the use of drugs for therapeutic purposes; to the public to permit the avoidance of noxious substances; to the physiologist and pathologist to enable the application of information derived from the study of the action of poisons to their sciences. The study of pharmacology can therefore be limited according as one or more of these points of view occupy the first place in the mind of the investigator. . . . Pure pharmacology is best advanced by the avoidance of any special standpoint in order that all of its bearings may be equally appreciated, and still more since the advancement of pure science is always retarded for a search for that only which promises immediately practical results. The history of the progress of the sciences teaches that nearly all the most important discoveries, even those subsequently of the greatest practical value, resulted from investigations untrammelled by a continuous mindfulness of the merely practical.' The object of pharmacology, we are told, is to acquire familiarity with the peculiarities and actions of poisons, to carefully analyse all processes which they evoke, so as to obtain a complete picture of their mode of action. Experiment must be the instrument most relied on in pharmacology, not only because it alone permits the study of all poisons in all doses and on the most various organisms, but because it is indispensable to the acquirement of any more profound knowledge of the *modus operandi* of poisons than can be obtained by a mere inspection of cases of poisoning.

In the succeeding chapters the authors deal with the methods of pharmacological investigation, the first section being devoted to a consideration of the action on the blood of various drugs and reagents. The modes of collecting blood, both arterial and venous, uncontaminated with foreign matter, are explained, and the alterations which may occur in the consistence, reaction, and coagulability, and in the gases of that fluid are considered. Each point is discussed in detail; and numerous examples and illustrations are given. The methods of testing the action of drugs on the muscles receive due attention, the lines of incision and the anatomical

arrangement of the parts being shown by diagrams. In Part II. practical directions are given for making injections into the blood-vessels and for the introduction of poisons in other ways. The graphic method is fully explained, the subject of blood-pressure tracings being illustrated by observations from the editor's papers on sanguinaria Canadensis. A good account is given of Roy's apparatus—although some of the most recent improvements in the mode of working are not noticed—and of the application to the mammalian heart by Professor Martin, of Baltimore, of the Leipzig method of maintaining circulation through the organs of warm-blooded animals so as to render possible the study of drugs on the isolated mammalian heart. The principle of this last-named method is 'to prevent circulation through all parts of the body of a warm-blooded animal but the heart and lungs; from want of blood, the brain, spinal cord, and sympathetic ganglia soon die, and so the heart is liberated from the control of nerve-centres outside of itself.' In the article devoted to the causes of the changes in the circulatory mechanism, the editor acknowledges his indebtedness to Dr. Lauder Brunton's lectures on that subject. The action of various drugs on the respiratory apparatus, on the digestive apparatus, on glandular organs, on temperature, on tissue-metabolism, and on the nervous and reproductive systems, is fully considered; in fact, within the compass of less than two hundred pages a vast amount of practical information is given, which is of the greatest use to students, and will be found invaluable to workers in the pharmacological laboratory.

WILLIAM MURRELL, M.D.

NOTES ON BOOKS.

ARTICLE 1279.

Sick-Room Chart. Published by W. H. Strickland, Pharmaceutical Chemist, South Kensington.—To secure accuracy in the administration of food, stimulants, and medicines, and in watching current symptoms, Mr. Strickland has issued night and day charts for the sick room, on which the nurse is expected to enter the hours, which are further divided into quarters, when the observations are made. Besides columns for nutriment, wine, and medicine, there are five others in the table to be appropriated to symptoms, comprising the duration of sleep, relief to the bowels, quantity of urine passed; together with pulse and temperature. These are all-important details, of which it is but right that the nurse should keep a note when in charge of any case whether critical or otherwise. But, while far from finding fault with attempts at tabulating records of a patient's progress, it is to be feared that, by refining so much as is indicated here by the fifteen minutes interval, the entries are more likely to be honoured by their omission than by their observance. Some years ago, it was the custom in more than one hospital to have tell-tale clocks in the wards, and, unless the nurse adjusted them every quarter of an hour, she had to bear the consequences of neglect; but it was soon found that the irksome character of the task distracted attention from more important duties. The object of Mr. Strickland's chart is of a more edifying character than the mechanical check alluded to; and, if only adopted in a modified form, it cannot fail to prove serviceable to both medical man and nurse.

ARTICLE 1280.

Cerebral Hyperæmia. Does it exist? A consideration of some views of Dr. William Hammond. By C. F. BUCKLEY, B.A., M.D., formerly Superintendent of Haydock Lodge Asylum, England. New York, 1882. Pp. 129.—This is an amusing criticism of a recent pamphlet by Dr. Hammond on hyperæmia of the brain, and a common-sense exposition of the peculiar solecisms contained in that production.

NEW INVENTIONS.

ARTICLE 1281.

ILLUSTRATED CATALOGUE OF SCIENTIFIC INSTRUMENTS.

By CHARLES COPPOCK, F.R.A.S., &c.

MR. COPPOCK, of 100 New Bond Street, late a partner in the well-known firm of R. and J. Beck, has published a very complete catalogue of instruments, including microscopes, ophthalmic, meteorological, nautical, and surveying instruments, &c., and their accessories. The pamphlet is profusely illustrated, the engravings being exceedingly well executed. A considerable space is devoted to microscopes, to which Mr. Coppock has given much attention. Besides those sent out from his own factory, he incorporates in his catalogue others of some of the most eminent foreign makers, including the names of Prazmowski, Zeiss, Nachet, &c., and of the noted American firms, R. B. Tolles and W. H. Bullock, for whom he is the English agent. It is impossible in the limits of a short review to enumerate the many commendable instruments in these classes; but, in selecting the combination microscope for especial remark, we do so from its combined advantages and moderate price. It has been constructed, as the catalogue informs us, 'mainly from data obtained from consultation with the leading teachers of science in Edinburgh,' and we recommend all intending purchasers of microscopes to see this instrument before arriving at a decision. All the accessories connected with microscopical study are enumerated and priced, and in addition all the standard works bearing upon the subject are set down in the catalogue and the cost given. Astronomical, terrestrial, and naval telescopes, and transit instruments are next treated of, and in close companionship are binocular field and tourists' glasses. The next section embraces surveying instruments, and following them we are introduced to nautical instruments, amongst which will be found some interesting examples of compasses. Barometers occupy an important position, and are exhaustively illustrated and described; thermometers (including clinical) being no less prominent. Mr. Coppock next draws attention to anemometers, wind vanes, and air meters; and the sunshine recorder, and sun-dial, originally invented in 1853, by Mr. J. F. Campbell, of Niddy Lodge, Old Kensington, and which has proved a most valuable adjunct to our list of scientific instruments, finds a place in the catalogue and is copiously described. In the portion devoted to

ophthalmic appliances, Mr. Coppock again appears to advantage, having selected this section of his avocation for especial study. The remaining portions of the catalogue are devoted to the numerous if somewhat minor classes of instruments that help to make up the professional appliances usually found at such an establishment. In the August number of the MEDICAL RECORD, we gave a lengthened description of Mr. Cathcart's microtome, and it may be noted that every instrument sent out from Mr. Coppock's establishment can be relied upon both for quality and workmanship.

ARTICLE 1282.

SURGICAL INSTRUMENTS AND APPLIANCES.

TO know where to be able to obtain these desiderata at a moderate price is of great moment, not only to the student but to many practitioners, and the Student's Number of the MEDICAL RECORD is a fitting medium through which advice on the subject may be given to those whose circumstances render it necessary that they should be careful in their outlay. There are a few establishments where a large collection of instruments, second-hand as well as new, are to be found, many of the former being none the worse for having been used, and offered at a considerable reduction in price. Mr. Walter Lawley, of Farringdon Street, E.C., has a general and extensive assortment of all kinds of surgical instruments and appliances of this kind, of good quality and workmanship ; and he holds an especially large stock of osteological specimens. Another feature in his collection is the general practitioner's pocket-case, containing a most complete equipment of instruments.

ARTICLE 1283.

SURGICAL APPLIANCES.

MR. K. R. SCHRAMM, of Belmont Street, N.W. who is favourably known amongst the profession, and whose inventions we have had occasion to speak of on former occasions, has recently made several little improvements in the supporting appliances with which his name is associated. Beyond studying each particular case for which an apparatus is made, wherever practicable each instrument or appliance is fitted to the patient by himself, and his work is considerably lighter than the majority of similar articles, and this has the effect of preventing breakage in a less ratio than in heavier work. We may mention in particular Reeves' universal shoe, Schramm's universal truss, the pelvic band, and the pelvic belt, as amongst the most notable of Mr Schramm's productions. All these articles deserve to be more widely known. Dr. Protheroe Smith is the inventor of the band, and Mr. Schramm has carried out his ideas with great success.

ARTICLE 1284.

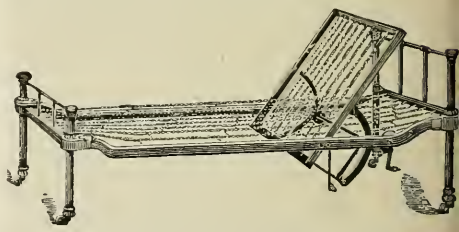
SANITARY ROSE POWDER.

IN introducing this powder, Messrs. Woolley, Sons, & Co., of Manchester, the inventors and makers, have conferred a decided boon upon our very young friends, the babies ; but, though ostensibly a nursery powder, it will be found an equally pleasant preparation for adults. Unlike the usual violet powders, it is free from starch of any kind, is a soluble powder, antiseptic in its effects, and consequently not likely to interfere with the healthy action of the skin. In contrast with the many insoluble cosmetic powders now used, this preparation deserves very high commendation ; it does not cake upon the skin, and is anti-irritant in its properties ; while, as an antiseptic and deodoriser of excessive perspiration, adults will appreciate its advantages. In all cases of excoriation or chafing, the rose sanitary powder will be found a great alleviator, and it would be well if it were generally used in nurseries, and for toilet purposes.

ARTICLE 1285.

THE 'LIVERPOOL' SPRING MATTRESS FOR HOSPITALS.

AT the recent Exhibition at Liverpool in connection with the annual meeting of the British Medical Association, Messrs. Billington Brothers, of Upper Duke Street, in that city, exhibited several examples of their metallic spring mattresses for hospital and infirmary use. The material and arrangement are somewhat similar to others with which the profession, have been long familiar (we append an illustration of the invalid bedstead and mattress) but it has the advantage of being lower in price.



The material, tinned iron chain, which is braced to the bedstead (of iron) in longitudinal lengths, is freely interspersed with short coiled steel springs, and each length is connected with the others on either side with short pieces of chain. In one arrangement the springs are in the same position in every length of chain, and form a direct cross line, while in others they are fixed to form diagonal lines across the bedstead ; but, not being connected transversely in the form of a rigid band, a greater amount of elasticity is obtained, each longitudinal strand expanding quite independently of its neighbour. The mode of fixing is simple and reliable, the hooks being carried over the frame of the bedstead and fixed on the outer section. Messrs. Billington also exhibited an infirmary litter of the same description, the framework of this being of wood. The value of metallic mattresses of this description from a sanitary point of view is so generally admitted, that it is quite unnecessary to urge any further recommendations in their favour.

AT a representative meeting of the citizens of Aberdeen held lately, it was resolved to give a cordial invitation to the British Association to hold their annual meeting in Aberdeen in 1885.

MEDICAL NOVELTIES.

Article 1286.

HUGGETT'S MEDICATED SANITARY PASTILLES.

We have received from Mr. S. Huggett, of Liverpool, specimens of his Medicated Sanitary Pastilles for fumigation. They contain various volatile drugs, such as nitrite of amyl, creasote, carbolic acid, eucalyptus, and firwood oil. They are employed in much the same way as the ordinary pastille so largely used in sick rooms. The odour of the active ingredient in each is very perceptible.

Article 1287.

CHRISTIANI'S FLEXIBLE MEDICINE CAPSULES.

Children as well as their elders who have a repugnance to swallow nauseous medicines in their natural state will have cause to thank the inventor of these flexible capsules, which differ materially from those hitherto introduced. The material of which they are composed is perfectly transparent and tasteless, and the degree of compression to which they are capable when filled without bursting is remarkable, and is capable of adjusting itself to the smallest throat. They are made in six sizes, the No. 1 being adapted to the youngest child, and the largest, though containing a teaspoonful, may be swallowed by an adult without difficulty. As they are pleasantly flavoured, a child will be inclined to look upon them more as a 'sweet' than a medicine. The most recent form in which they have been introduced is 'Emulsio Santali Alkalina;' and in overcoming the difficulty of enclosing a mixture containing water in a perfectly soluble capsule, the inventors have achieved a success that the profession will doubtless not be slow to appreciate. Each of these capsules of No. 2 size contains 15 minims of pure English santal oil and 10 grains of bicarbonate of potash, &c., and the preparations introduced into all of them, which include cod-liver oil, castor-oil, copaiba, &c., are of the best known makes. It must not be supposed that so manifest an advantage can be attained without an increase of cost over the medicine in its normal condition; but the inventors have priced them for sale at so moderate a rate that all who dislike to take nauseous medicines in the usual forms (and who does not) have the alternative at command. The address of the inventor is 11 Queen Victoria Street, E.C.

Article 1288.

MACKENZIE & CO.'s COMPOUND COD-LIVER OIL EMULSION.

This well-known firm, of Forrest Road, Edinburgh, the original inventors of the preparation above-named, which has secured for itself a well-merited success, have recently added pancreatine to the compound, which will no doubt be found to be an improvement in many cases. It appears that the introduction of the parcels post has already been taken advantage of by the firm for the diffusion of this preparation in particular, and enables them to send a sample bottle to any part of the kingdom at a most trifling cost.

MISCELLANY

Medical Hospitality.—An entertainment fund has recently been endowed in the Philadelphia College of Physicians by Dr. S. Weir Mitchell. The income is to be used, under the direction of a standing committee, to defray the expenses of occasional receptions, at which refreshments suited to the dignified character of the society are to be provided. It is proposed to issue invitations not only to members of the college and other physicians, but also to laymen who may be identified with the intellectual welfare of the city.

Mdlle. Victorine Benoit has gained a doctor's degree in the Paris Faculty of Medicine. Her 'Thèse' on 'Paralysie Infantile' won great praise from the judges, MM. Potain, Strauss, Rendu, and Monod.

Bucquoy on Pleurisy in Cardiac Diseases.—In this work M. Bucquoy's aim has been to show that frequency of pleuritic complications in the advanced stages of diseases of the heart in contradistinction to the relative rarity of hydrothorax properly so termed, notwithstanding the cachectic conditions in which they develop themselves. These pleurisies remain somewhat limited. They give rise to no considerable effusion, and are generally quickly cured. When the effusion is considerable and it aggravates the asystolia, it is advisable to perform thoracentesis, which in these cases gives excellent results.

French Hospitals.—A recent inquiry made by the Bureau of Public Assistance shows that there are at the present time in France 1,563 hospitals and asylums of all kinds, giving a proportion of one establishment for every 24,000 inhabitants. The officials and *personnel* of all these amount to 28,676 persons—viz. 2,787 physicians and surgeons, 3,050 dressers and hospital attendants, 11,286 on the religious staff, and 11,553 servants. The number of beds in the 1,653 establishments is 164,955, of which 71,192 are at the service of the sick, 54,245 for incurables and infirm patients, 16,050 for children, while 23,459 are reserved for those engaged on the nursing staff. With regard to ordinary cases, the number of patients admitted amounts to about 360,000 every year, with an average of 40,000 for special treatment. In general the proportion of admissions into the hospitals are 90 to every 10,000 inhabitants.

Hospital Accommodation on the Continent.—An article in the *Journal de Statistique Suisse* gives the following figures respecting the number of beds in proportion to the inhabitants in some of the countries of Europe, from which it appears that Switzerland is the best furnished with accommodation in this respect. The statistics are as follow:

Country.	Population.	Number of Beds.	Number of Inhabitants per Bed.
Switzerland ..	2,846,102	17,757	160
Wurtemburg ..	1,881,505	8,814	213
France	37,672,048	140,000	269
Hesse	884,218	1,975	448
Austria	21,747,063	38,251	569

Lunatic asylums or hospitals for the insane are not comprised in these figures. Switzerland contains fourteen of these establishments, which between 1877 and 1881 received 7,700 patients, of whom 4,044 were men and 3,656 were women, an average of about 1,540 new patients per year. Of this number the mental condition of 21·31 per cent. of the men and 2·81 of the women could be directly traced to the abuse of alcohol.

The Sheffield School of Medicine and the Firth College.—Arrangements are being made for incorporating the Sheffield School of Medicine (which was established in 1828) with the Firth College, an institution of which the objects are similar to those of the Mason

Science College in Birmingham; and efforts are being made to raise the sum of money (5,000*l.*) necessary for the erection of new buildings.

SOCIAL SCIENCE ASSOCIATION.—The programme of the forthcoming congress to be held at Huddersfield, from October 3 to October 10, is issued. Among the papers announced is one by Mr. A. Herbert Safford: 'Is it desirable to provide for Criminal Children, whose ill-health renders them ineligible for Reformatory or Industrial Schools, some adequate training by boarding-out, or by a special industrial school?'; also papers by Dr. C. Meymott Tidy, and Mr. G. Latham Browne: 'Can the Law regulating the Sale of Poisons be amended, so as more effectually to prevent their employment for Criminal Purposes?' In the Public Health Department, Dr. Clifford Allbutt and Mr. J. Hepburn Hume contribute papers on the question: 'Is the Modern System of Education exerting any Deleterious Influence upon the Health of the Country?' The question of, 'Is it desirable to take any, and what, further measures to Prevent the Spread of Zymotic Diseases through the Milk-supply of our Towns?' is to be discussed in papers by Mr. Francis Vacher, Dr. Britton, and Mr. Ernest Hart. Papers will be read by Dr. Norman Kerr and Mr. Samuel Knaggs, on the question, 'Is it desirable to amend or extend the Habitual Drunkards' Act?'

RESEARCH teaches us that the abysses of the ocean are inhabited by creatures of a relatively highly complicated organisation, which support an enormous pressure and may exceed 500 atmospheres. The light of the sun never penetrates through these thick layers of water, and darkness is complete there. The visual apparatus therefore becomes useless; thus many animals are blind, or have only quite rudimentary eyes, but by a just system of compensation the organs of touch then take on an abnormal development. Finally, the absence of all vegetable growth below a depth of 200 metres induces for these creatures the necessity of a kind of food of which we can scarcely form an idea. It is therefore apparent that the influence of these biological conditions raises physiological questions of the greatest interest. M. Alphonse Milne-Edwards is now preparing to complete his researches on these points, and to pursue his explorations so far as the coast of Senegambia, as well as in that part of the Atlantic Ocean always covered with a bank of seaweed, and which is named the Sargassian Sea. He will be amply provided with the apparatus necessary for the study of the temperature, of the deep layers of pressure, of the composition of the gases dissolved in the water, and he will be happy to receive suggestions for novel researches from any naturalist who may be disposed to favour him with their ideas on the subject.

OWENS COLLEGE, MANCHESTER.—*Medical Department.*—The great increase in the number of students attending the school (which has wellnigh doubled since 1874), the extension of the courses of study, but especially a desire to give the fullest possible opportunities for teaching and investigation in the departments of Physiology, Pathology, and Materia Medica, led the governing body to sanction about two years ago great extensions of the so recently constructed buildings. These are now completed, and will be opened for regular work at the commencement of the session 1883–84. I. *Anatomical Department.*—This comprises—1. A dissecting-room, measuring 78 feet by 32 feet. 2. A bone-room immediately adjacent. 3. An anatomical workroom for the assistant-curator. 4. Room for the storing and preparation of subjects. 5. An 'articulating' room. 6. Professor's private room. 7. Demonstrator's rooms. II. *Physiological Department.*—This comprises (*a*) a lecture room set apart for the department, and furnished with every requirement for the special subject; this room admits of being perfectly darkened, and may be lighted either by gas or the electric light. (*b*) The Physiological Laboratory, which includes the following rooms:—1. A room for the practical classes in histology, sometimes also used for physiological demonstrations. 2. A workroom for the use of regular laboratory students working at practical physiology and histology; this room is provided with several sets of recording apparatus, and with the great majority of the instruments and appliances needed in the study of practical physiology and histology. 3. A room primarily devoted to researches on the electromotive properties of the animal tissues and to physiological optics; this room is admirably lighted, and has one window specially constructed for experiments in which the heliostat is required; it admits of being rapidly and efficiently darkened by means of blinds, and will be lighted as occasion requires by gas light, and by incandescent or arc electric lights. 4. A photographic room, contiguous to 3, and arranged so that, if need be, photographic registration of phenomena observed by the aid of the galvanometer and the electrometer may be carried on, as well as for other applications of photography to physics and physiology. This room is provided also with an ophthalmoscope and laryngoscope. 5. A room for chemical balances. 6. A room for mercurial pumps and gas analysis. 7. A laboratory for physiological chemistry, comprising complete working facilities for twenty-four students, besides a thoroughly fitted-up demonstrators' table, and working space for making observations, &c. 8. A small workshop. 9. A small laboratory adjoining the lecture-room, in which will be stored those instruments and appliances specially used in the illustration of lectures. 10. A private laboratory for the professor. 11. A private study for the professor. 12. A small room for the gas-engine and dynamo. Certain of the principal rooms of the laboratory will be supplied with power furnished by the gas-engine, and will be fitted up so as to permit of recording cylinders being put in motion in any part of them. The laboratory is supplied with a very complete collection of apparatus required in teaching and investigating physiological phenomena. III. *Pathological Department.*—This is provided with—1. a students' laboratory, fitted up with work-tables and other appliances necessary for the study of pathological anatomy; 2. a professor's private laboratory; 3. a laboratory for surgical pathology, in which will be also lodged a typical collection of specimens illustrating surgical anatomy, for the use of students; 4. an Assistant Curator's room. The pathological collection is mainly lodged in one of the galleries of the Anatomical Museum. IV. *Department of Materia Medica, Pharmacy, and Pharcology.* To this department belong 1. a large museum of materia medica; 2. a laboratory for pharmaceutical instruction and investigation; 3. a professor's laboratory, specially set aside for pharmacological work. V. *Department of Hygiene and Medical Jurisprudence.* Space has been assigned in the new buildings for a collection to illustrate these subjects. VI. *Department of Midwifery and Diseases of Women.* The collection illustrating the course of instruction in these subjects is lodged in the upper gallery of the Anatomical Museum. VII. *Lecture-Rooms.* With the exception of the courses on Physiology, Chemistry, Zoology, and Botany, which are given in lecture-rooms specially devoted to these subjects, the various lectures are delivered in two lecture-rooms, one of which accommodates nearly 200, and the other nearly 150 students. VIII. *Library of the Medical Society and Students' Library.* On the ground-floor of the Medical Buildings are situated the set of rooms in which are located the Library of the Medical Society of Manchester, under the terms of agreement entered into between the Society and the Owens College. These include 1. the Library, in which are lodged upwards of 26,000 volumes; this is one of the richest collections of ancient and modern medical books in this country; 2. a Student's Library; 3. a very handsome Reading-Room, specially reserved for members of the Medical Society, which will also be used for the meetings of the Society. The Medical Buildings also comprise a Student's Common Room, besides rooms for Professors and lecturers, Offices, &c.

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"New York Medical Journal," *August* 1880, Dr. F. Weir, *in Lecture delivered to the College of Physicians and Surgeons, New York.*

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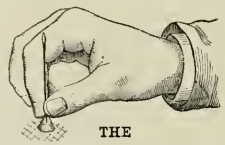
THE ASSOCIATION PIN-POINT.  REGISTERED.

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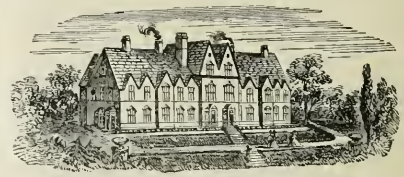

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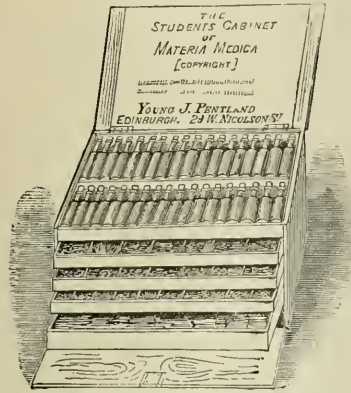

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'On the occasion of two of the most recent Parliamentary elections, I was hurriedly applied to by candidates for references to the sources from which to answer their anti-vaccinating persecutors. Members of Parliament and magistrates are, indeed, often at their wits' ends to know where to find the true facts which these gentlemen delight to misrepresent.

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SYNOPSIS.

CHAPTER I.

SMALL-POX UNCONTROLLED BY VACCINATION.

Introduction.—Anti-vaccination tactics—Perversions and inaccuracies of anti-vaccination tracts—Small-pox in its natural state, uncontrolled by vaccination—Amongst remote communities—Among the Indians—In civilised Europe—In England—In royal and noble families—After effects of non-fatal attacks of small-pox—Macaulay's description of ravages of small-pox in seventeenth century—Introduction of inoculation and of vaccination—What vaccination is: Jenner's opinion—Power of vaccination in influencing small-pox—Modifying power of vaccination—Statistical evidence of the different degrees in which persons vaccinated in different ways will be safe against death by small-pox.

CHAPTER II.

OBJECTIONS TO VACCINATION.

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ALLEGED MISCHIEF FROM VACCINATION, AND INCREASED MORTALITY FROM CERTAIN DISEASES.

Allegation that vaccination propagates enthetic and constitutional diseases—Source of fallacy with regard to this question—Vaccination gives immunity from small-pox only—Explanation of Mr. Hopwood's Parliamentary Return of 1877—Comparison of present with past diseases very liable to fallacy—Hypothesis that vaccination renders persons more liable to other diseases than small-pox contrary to the whole current of medical experience—Allegation that cutaneous diseases and glandular swellings are introduced by vaccination—Erysipelas after vaccination—Syphilis after vaccination—Allegations of invaccination of syphilis may easily be made in cases where there is not even a pretext for them—Practical and common-sense view of question—Experience of Medical Department of the State as to alleged injury from vaccination—Danger, if there be any at all, of communicating through vaccine lymph any other affection than its own, practically non-existent—Medical concurrence in belief of non-communicability of disease by vaccination—Opinion of Select Committee of House of Commons on the question—Animal vaccination—Its advantages.

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Complete inaccuracy of allegation that vaccination has no power of preventing small-pox—Incompiete protection after puberty afforded by much of past vaccination—Importance of re-vaccination—Effect of vaccination upon susceptibility to small-pox in the individual—Experience of last epidemic—Beneficial effects of vaccination most marked in mortality from small-pox—Varying protection afforded by different qualities of vaccination—Mr. Marson's evidence given before the House of Commons—Experience of Metropolitan Asylums Hospitals—Distribution of small-pox mortality amongst the unvaccinated and persons vaccinated with various degrees of completeness—Vaccination marks of patients at Homerton and Hampstead Small-pox Hospitals—Conclusion as to relative mortality amongst vaccinated and unvaccinated—Results of examination of vaccination marks of recruits—Mr. Marson on degrees of severity in small-pox after vaccination.

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RE-VACCINATION.

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SUMMARY OF CONCLUSIONS.

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A.—Official instructions for vaccinators under contract.
B.—Letter of the Local Government Board on the subject of repeated vaccination prosecutions.
C.—Table I.—Small-pox mortality in England and Wales.
D.—Table II.—Annual mortality from small-pox in England and Wales, with the proportion of deaths to population and to total mortality, from 1838 to 1877 inclusive.
E.—Table III.—Small-pox mortality in England and Wales at various groups of ages in each of the thirty-two years, 1847-78.
F.—Table IV.—Cases and deaths from small-pox amongst the British troops serving in the United Kingdom for 18 years (1859-76).
G.—Table V.—Cases and deaths from small-pox in the British Navy employed on the home force for 20 years (1859-78).

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From the Address of DR. WM. ROBERTS, M.D., F.R.S., &c., *at the Northwich Meeting of the British Medical Association.*

'Those of you who from past experience have lost faith in Pepsine may be encouraged to try again the more active preparations which are now within our reach. A Liquor Pepticus, prepared by Mr. Benger, is a digestive agent of extraordinary power.'

These Preparations were also described and strongly recommended by Dr. WM. ROBERTS, F.R.S., in a paper read before the International Medical Congress in London, 1881, entitled :—'*On some New Articles of Peptonised Food Prepared by the Pancreatic Method.*'

The above may be obtained through all leading Wholesale and Retail Houses at home and abroad.

MANUFACTURERS:

MOTTERSHEAD & CO., { S. PAINE AND F. B. BENGER.

PHARMACEUTICAL CHEMISTS,

7 EXCHANGE STREET, MANCHESTER.

ACKERMAN-LAURANCE'S

"DRY-ROYAL"

FINEST SAUMUR CHAMPAGNE

"As pure, wholesome and exhilarating as the most expensive Champagnes"

36/- per Dozen 3/- per Bottle

And to be obtained in every Town in the United Kingdom.

THE "LONDON MEDICAL RECORD" *on the* "DRY-ROYAL" SAUMUR CHAMPAGNE.

"PERHAPS DR. DRUITT conferred a greater boon upon the public than even he anticipated when directing the attention of the medical profession to the above-named wine—indeed, it is difficult to over-estimate the advantages to be derived by those of delicate constitution from the moderate use of the pure light and exhilarating sparkling wines produced in the ancient French province of Anjou, and named after its capital—Saumur.

Unfortunately, however, these wines, which were originally shipped to this country by Messrs. ACKERMAN-LAURANCE (who enjoy the reputation of being not only the oldest but also the first house in Saumur), no sooner began to find favour with the public than a host of imitators sprung up, and the United Kingdom was inundated with not only the most inferior descriptions of wine from the outlying poor and comparatively uncultivated districts of Saumur, but from every other district of France producing any wine that could be sweetened and made to effervesce. And as all these varieties—the wines of fine quality, medium quality, and common grades—were, and are still, shipped to this country under the same designation, that of 'Saumur,' it has become most difficult to discriminate between the good, indifferent, and bad varieties allnded to, and, as a natural consequence, there is a danger of the present consumption—many thousands of dozens annually—being seriously diminished.

Under these circumstances, we cannot sufficiently commend Messrs. ACKERMAN-LAURANCE for the decision, which we learn they have lately arrived at, namely, only to ship their special brand of 'Dry-Royal' Saumur Champagne to those houses who are willing to supply it to the public as imported, that is, with the brand of the wine and name of the shipper on the cork and label as a guarantee of quality, a course adopted many years ago by shippers of the finest champagnes, whose brands are now so celebrated.

So far as Messrs. ACKERMAN-LAURANCE are concerned, we should hope for and predict a like result, for we can bear testimony to the excellent quality of their 'Dry-Royal' brand of Sparkling Saumur, and consider the wine as pure, wholesome, and exhilarating as the most expensive champagne, while it can be obtained at about half the cost of the latter, namely, three shillings a bottle, a price which brings it within the reach of all consumers of sparkling wines."

NEPENTHE,

OR

ANODYNE TINCTURE.

Prepared exclusively from Opium.

THE SAFEST AND BEST PREPARATION OF OPIUM.

Produces neither Headache, Sickness, nor Constipation.

Messrs. FERRIS & COMPY. beg to direct the attention of the Medical Profession to the following important and unsolicited Testimonial to the value of NEPENTHE, which they have received from GEO. C. SEARLE, Esq., of Brixham, Devon, M.R.C.S., L.S.A., Medical Officer of Health, Brixham, &c. :—

'Brixham, October 1881.

'GENTLEMEN,—I should like to bring before your notice the very great benefit two patients of mine have derived, and are still deriving, from the continued use of NEPENTHE.

'The first case is that of an old lady nearly 80, who has been suffering now for many years from an ulcerated leg, accompanied at night with very great pain, so much so as to prevent her sleeping. About eight years ago I persuaded her to try a dose of NEPENTHE at bed-time, and she continued taking a dose regularly *every night ever since*, without any of the bad symptoms generally induced by the continued use of an opiate, but on the contrary is now, although so aged, in better health than she was eight years ago.

'The other case is that of a cancer of the face and neck (a very bad case): here there was an intensity of pain which nothing seemed to relieve, although opium, morphia, chloral, and every other sedative which could be thought of, had been tried. I at last tried the NEPENTHE, and the result has been an entire cessation of the pain, which has not yet returned, although he has had the medicine now for some weeks. I may mention that in the first case it has not been necessary to increase the dose, and in the latter not to any great extent, which I consider another great advantage NEPENTHE possesses over other preparations of opium.

'GEO. C. SEARLE.'

From 'THE LANCET,' December 18th, 1869.

'NEPENTHE, OR ANODYNE TINCTURE, prepared by Messrs. FERRIS & Co., Bristol.—This preparation really consists, as stated, solely of opium, resembling somewhat the liquid extract of the British Pharmacopœia. It is claimed for it that it does not produce headache, stupor, giddiness, depression of spirits, diminution of nervous energy, prostration of strength, nor constipation; it is doubtless less stimulating than those preparations of opium made with the solid and crude drug; and a further commendation of NEPENTHE is its uniformity of strength. The NEPENTHE intended for subcutaneous injection is of double the ordinary strength; and that it is really so we have verified by analysis.'

NEPENTHE may be used with perfect safety in every case where an opiate is indicated, and from the peculiar process by which it is prepared, it is deprived of all constituents which render the Tinctura Opii, and other forms of Opium, in very numerous instances wholly inadmissible.

It is also of uniform strength, and in this respect possesses high advantages.

NEPENTHE does not produce headache, stupor, giddiness, depression of spirits, diminution of nervous energy, prostration of strength, nor constipation, but induces natural and refreshing sleep.

DOSE—THE SAME AS THAT OF TINCTURA OPII. PRICE 8*s.* PER LB.
DOUBLE STRENGTH NEPENTHE FOR SUBCUTANEOUS INJECTION. PRICE 16*s.* PER LB.

MAY BE PROCURED DIRECT FROM THE SOLE MANUFACTURERS,

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WHOLESALE AND EXPORT DRUGGISTS, BRISTOL,

And through all leading Wholesale and Retail Chemists in Great Britain and the Colonies.

NOTICE.—Messrs. FERRIS & CO. are the ONLY manufacturers of Nepenthe, and medical gentlemen are especially cautioned against using any preparation which does not bear their name and label.

Nepenthe is registered under the Trade Marks Act, and protected by a facsimile of our signature pasted over each cork, and is sent out in bottles from four ounces upwards, bearing a label in white letters upon a green ground.

N.B. Two pounds of Nepenthe, or one pound of Nepenthe and three pounds of Ferris & Co.'s Syrup of Chloral, will be sent, carriage paid, to any Railway Station on receipt of P.O.O. for Sixteen Shillings.

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